



177759

FILED  
KENNETH J. MURPHY  
CLERK

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF OHIO  
WESTERN DIVISION

OCT 9 2 34 PM '85

U.S. DISTRICT COURT  
SOUTHERN DIST. OHIO  
WEST DIV. CINCINNATI

UNITED STATES OF AMERICA,

Plaintiff,

v.

CHEM-DYNE CORPORATION, et al.,

Defendants.

STATE OF OHIO ex rel.  
CELEBREZZE,

Plaintiff,

v.

ROHM AND HAAS COMPANY, et al.,

Defendants.

Consolidated Civil Action  
Nos. C-1-82-840 and  
C-1-82-962

Chief Judge Carl B. Rubin

Judge	<u>4810</u>
Mag.	<u>✓</u>
Journal	<u>✓</u>
Motion #	<u>      </u>
Issue	<u>consent</u>
Card	<u>      </u>
N/S	<u>843</u>
Docketed	<u>JS</u>

CONSENT DECREE

## TABLE OF CONTENTS

	<u>Page</u>
I. JURISDICTION.....	4
II. PARTIES BOUND.....	4
III. DEFINITIONS.....	5
IV. GENERAL PROVISIONS.....	8
V. PERFORMANCE OF THE WORK BY SETTLING DEFENDANTS.....	15
VI. REPORTING AND RECORD KEEPING; RETENTION AND AVAILABILITY OF INFORMATION.....	51
VII. GRANT OF SITE ACCESS.....	54
VIII. ON-SCENE COORDINATOR.....	57
IX. FORCE MAJEURE.....	57
X. DISPUTE RESOLUTION.....	59
XI. REIMBURSEMENT.....	60
XII. EFFECT OF SETTLEMENT.....	63
XIII. MUTUAL RELEASE AND COVENANT NOT TO SUE.....	64
XIV. FULL RELEASE FOR CERTAIN SETTLING DEFENDANTS .....	67
XV. NOTICES.....	70
XVI. CONSISTENCY WITH NATIONAL CONTINGENCY PLAN.....	71
XVII. RESPONSE AUTHORITY.....	71
XVIII. MODIFICATION.....	71
XIX. EFFECTIVE AND TERMINATION DATES.....	72
XX. USE OF DECREE.....	72
XXI. RETENTION OF JURISDICTION.....	73

IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF OHIO  
WESTERN DIVISION

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	
	)	
v.	)	
	)	
CHEM-DYNE CORPORATION, <u>et al.</u> ,	)	Consolidated Civil Action
	)	Nos. C-1-82-840 and
Defendants.	)	C-1-82-962
	)	
STATE OF OHIO <u>ex rel.</u>	)	
CELEBREZZE,	)	Chief Judge Carl B. Rubin
	)	
Plaintiff,	)	
	)	
v.	)	
	)	
ROHM AND HAAS COMPANY, <u>et al.</u> ,	)	
	)	
Defendants.	)	

---

CONSENT DECREE

WHEREAS, the United States of America, on behalf of the Administrator of the United States Environmental Protection Agency, filed on August 26, 1982 a complaint in this matter, Civil Action No. C-1-82-840, in the United States District Court for the Southern District of Ohio, Western Division, pursuant to various federal statutory and common law theories of recovery for the removal and proper disposal of certain material located at the Chem-Dyne Site in Hamilton, Ohio, including, inter alia, for the reimbursement of all funds expended by the United States pursuant to the National Contingency Plan for investigations, clean-up activities, enforcement activities and other response actions relating to the Chem-Dyne Site;

WHEREAS, the State of Ohio filed on September 14, 1982, a complaint in this matter, State of Ohio, ex rel. William J. Brown, Attorney General of Ohio v. Rohm and Haas Co., et al., Civil Action No. C-1-82-962, in the United States District Court for the Southern District of Ohio, Western Division, pursuant to various federal and state statutory and common law theories of recovery for the removal and proper disposal of certain material located at the Chem-Dyne Site in Hamilton, Ohio, and, inter alia, for reimbursement of costs incurred by the State for investigations, cleanup activities, enforcement activities and other response actions, and for injunctive relief and recovery of other alleged damages;

WHEREAS, by Order of this District Court dated November 4, 1982, the State and Federal actions in this matter were consolidated under a single proceeding denominated Civil Action No. C-1-82-840;

WHEREAS, the United States filed a First Amended Complaint in this matter on April 13, 1983, adding additional defendants;

WHEREAS, the United States filed a Second Amended Complaint in this matter on December 28, 1983, adding additional defendants and additional and amended claims for relief;

WHEREAS, various third-party complaints and amended third-party complaints were filed in this matter on January 26, 1984, February 4, 1984, February 10, 1984, March 1, 1984, and April 9, 1984, naming various third-party defendants and



seeking recovery and indemnification and/or contribution from said third-party defendants for any damages, costs or relief ordered by the Court against any of the respective third-party plaintiffs;

WHEREAS, the State of Ohio filed a First Amended Complaint in this matter on September 4, 1984, adding additional defendants and additional and amended claims for relief;

WHEREAS, it is the intention of the parties hereto to include in all releases given herein claims for matters covered by a 1982 settlement between Plaintiffs and some of the Settling Defendants and pertaining to the Chem-Dyne Site;

WHEREAS, the Settling Defendants deny any and all legal or equitable liability under any federal or state statute, regulation, ordinance or common law for any response costs or damages caused by storage, treatment, handling or disposal activities or actual or threatened release of materials at the Chem-Dyne Site or by materials, if any, disposed of by the Settling Defendants to, through or at the direction of the Chem-Dyne Group;

WHEREAS, Plaintiffs and the Settling Defendants agree that settlement of this matter and entry of this Consent Decree is made in good faith in an effort to avoid further expensive and protracted litigation, without any admission as to liability for any purpose, and, except to the extent provided in Paragraph XIII herein, to settle and resolve claims which were and are disputed as to validity and amount

which were raised by, between and among any party to this action;

WHEREAS, the Plaintiffs' present intention, subject to prosecutorial discretion, is to seek from those Defendants who do not execute and make payments pursuant to Paragraph IV of this Consent Decree all relief the Plaintiffs sought from the Defendants but for which the Plaintiffs were not compensated by the terms of this Consent Decree;

WHEREAS, the Settling Defendants' present intention is to seek contribution from such Defendants; and

WHEREAS, all parties to this Consent Decree consent to the entry thereof;

NOW, THEREFORE, it is hereby ordered, adjudged and decreed as follows:

I.

JURISDICTION

The Court has jurisdiction over the subject matter herein and the parties to this action.

II.

PARTIES BOUND

This Consent Decree shall apply to and be binding upon the Plaintiffs and the Settling Defendants and their successors and assigns. The undersigned representative of each party to this Consent Decree certifies that he or she is fully authorized by the party or parties whom he or she

represents to enter into the terms and conditions of the Consent Decree and to execute and to legally bind that party to it. The Settling Defendants shall provide a copy of this Consent Decree to the Contractor and instruct the Contractor to provide a copy thereof to any subcontractor retained to perform the Work required by this Consent Decree.

### III.

#### DEFINITIONS

Whenever the following terms are used in this Consent Decree and the Appendices to it, the definitions specified hereinafter shall apply:

A. "Chem-Dyne Site" or the "Site" means the "facility," as that term is defined at 42 U.S.C. § 9601(9), where storage, treatment, recycling and disposal activities conducted by the Chem-Dyne Corporation or members of the Chem-Dyne Group transpired, which facility is located at 500 Ford Boulevard, Hamilton, Ohio and is more specifically delineated in Figure 2 of the Remedial Action Plan, as defined herein. The Chem-Dyne Group means Chem-Dyne Corporation, Spray-Dyne Corporation, K.O.I. Petroleum Company, Inc., Hamilton Industrial Real Estate, B&W Enterprises, Whitco Enterprises, Inc., William L. Kovacs and Bruce Whitten collectively.

B. "Chem-Dyne Site Escrow Account" means the bank account to which the Premium Settling Defendants will pay the

amounts specified in this Consent Decree. The agreement establishing this Escrow Account shall be in the form of Appendix 6 hereto.

C. "Chem-Dyne Site Trust Fund" means the fund managed by the Trustee to which the Settling Defendants, except the Premium Settling Defendants, and Settling Federal Agencies shall pay the amounts specified in this Consent Decree.

D. "Contractor" means the company or companies retained by the Trustee on behalf of the Settling Defendants to undertake and complete the Work. The Contractor and any subcontractors retained by the Contractor shall be deemed to be related by contract to each Settling Defendant within the meaning of 42 U.S.C. § 9607(b)(3). Each Contractor and subcontractor shall be qualified to do those portions of the Work for which it is retained.

E. "Defendants" means the original defendants to this action, defendants added by all amendments to the complaints, and all third-party defendants added by all original and amended third-party complaints, but not including Plaintiffs or any of their agencies or departments.

F. "Non-Settling Defendants" means any Defendant listed in Appendix 3 who does not sign this Consent Decree.

G. "National Contingency Plan" shall be used as that term is defined in 42 U.S.C. § 9605.

H. "OEPA" means the Ohio Environmental Protection Agency.

I. "Parties" means the United States, the State and the Settling Defendants.

J. "Plaintiffs" means the United States of America and the State of Ohio, and their agencies and departments.

K. "Premium Settling Defendants" means those Settling Defendants listed in Appendix 4.

L. "Property Owners" means all persons listed on Appendix 5 who claim to have any ownership, leasehold or other interest in the real or personal property at the Chem-Dyne Site.

M. "Remedial Action Plan" or "RAP" means the plan for implementation of remedial work set forth in Appendix 1.

N. "Response Costs" means any costs incurred by Plaintiffs pursuant to 42 U.S.C. §§ 9604 and 9607, which were not inconsistent with the National Contingency Plan.

O. "Settling Federal Agencies" means those federal agencies and facilities listed in Appendix 3.

P. "Settling Defendants" means those Defendants listed in Appendix 3 and who sign this Consent Decree.

Q. "State" means the State of Ohio.

R. "Trustee" means the person(s) or entity(ies) who will hold and/or manage the monies contributed by the Settling Defendants under this Consent Decree, and who will hire the Contractor on behalf of the Settling Defendants, under a Trust Agreement in the form of Appendix 2 hereto. The Trustee shall be deemed to be related by contract to each Settling Defendant within the meaning of 42 U.S.C. § 9607(b)(3).

S. "United States" means the United States of America.

T. "USEPA" means the United States Environmental Protection Agency.

U. "Work" means the implementation, in accordance with Paragraph V hereof, of the Remedial Action Plan as the RAP may be modified pursuant to the provisions of this Consent Decree, and any schedules or plans required to be submitted pursuant thereto.

V. "Waste Materials" means any hazardous waste as defined by 42 U.S.C. § 6903(5); or hazardous substance, as defined by 42 U.S.C. § 9801(14); or pollutant or contaminant as defined by 42 U.S.C. § 9604(a).

#### IV.

##### GENERAL PROVISIONS

###### A. Chem-Dyne Site Trust Fund:

1. The Settling Defendants, excluding the Premium Settling Defendants, shall present to the Plaintiffs a signed Trust Agreement establishing the Chem-Dyne Site Trust Fund in the form of Appendix 2 hereto within ten (10) days of the entry of this Consent Decree. A signed Escrow Agreement establishing the Chem-Dyne Site Escrow Account in the form of Appendix 6 hereto shall also be presented to the Plaintiffs by the Settling Defendants within ten (10) days of the entry of this Consent Decree. The Trust Agreement shall be construed

to confer upon the Trustee all powers and authority necessary to fulfill the obligations of this Consent Decree.

2. Within thirty (30) days after the expiration of the public comment period and entry of this Decree, each of the Settling Defendants which is not a Premium Settling Defendant shall pay to the Chem-Dyne Site Trust Fund the amount that is shown as a total for that Settling Defendant in column 8 of Appendix 3 hereto. The United States shall also contribute to the Chem-Dyne Site Trust Fund on behalf of its agencies and facilities a sum equal to the total of the amounts shown as totals for each federal agency and facility in column 8 of Appendix 3. Also within thirty (30) days after the expiration of the public comment period and entry of this Decree, each of the Premium Settling Defendants shall pay to the Chem-Dyne Site Escrow Account the amount that is shown as a total for that Premium Settling Defendant in Column 9 of Appendix 3 hereto. Such payment by each of the Settling Defendants, Settling Federal Agencies, and Premium Settling Defendants is not a fine, penalty or monetary sanction. The funds in the Chem-Dyne Site Escrow Account shall be used to reimburse the United States as provided in Paragraph XI. The Settling Defendants, exclusive of Premium Settling Defendants, shall instruct the Trustee to use the money in the Chem-Dyne Site Trust Fund (1) to pay the Contractor for the Work described in Paragraph V hereof and the Remedial Action Plan, (2) to reimburse the United States (to the extent not reim-

bursed by funds from the Chem-Dyne Site Escrow Account) and the State of Ohio as provided in Paragraph XI, and (3) to pay other proper expenses pursuant to this Consent Decree, the Remedial Action Plan, and the Work.

3. In the event the cost of Work described in Paragraph V hereof and the Remedial Action Plan exceeds the amounts allocated for the Work and paid under Subparagraph A(2), the Settling Defendants, except Premium Settling Defendants, upon notification and within the time prescribed by the Trustee, shall be responsible for and shall pay to the Chem-Dyne Site Trust Fund such additional amounts in the same proportions relative to each other as shown in column 3 of Appendix 3 as are necessary to fund such additional cost. In the event that any Settling Defendant fails to pay any such additional amount, the other Settling Defendants shall pay that amount in the same proportions relative to each other as shown in column 3 of Appendix 3. The Settling Federal Agencies may also be requested to make additional payments as determined by the Trustee in accordance with the provisions of this Subparagraph. Any dispute between or among the Trustee, Settling Defendants, and Settling Federal Agencies regarding the amount, purpose or other matters pertaining to such additional payments shall be resolved in accordance with the Dispute Resolution provisions of Paragraph X of this Consent Decree.



4. The additional payments required by Subparagraph A.3 shall be made in sufficient time to assure the uninterrupted progress and timely completion of all phases of the Work. The Settling Defendants shall assure that the periodic financial reports submitted by the Trustee under Paragraph VI.B hereof include cash flow projections that project the level of funds that will be necessary for the Work for the succeeding one year period. If the amount of money in the Chem-Dyne Site Trust Fund is less than such projected level, the Settling Defendants shall make the necessary additional payments in amounts prescribed by the Trustee within the period of time set by the Trustee. This period of time shall be set to assure that the necessary additional payments are made no later than three months before the projected need for such payments. The Trustee shall be instructed to notify Plaintiffs of the level at and time within which the payments are required.

B. Commitment of Plaintiffs and the Settling Defendants:

1. The Settling Defendants agree to finance and perform the Work described in Paragraph V hereof and in the Remedial Action Plan.

2. Upon payment to the Trustee of the amount due as set forth in column 8 of Appendix 3, each Settling Defendant and Settling Federal Agency shall be released from liability with regard to the Chem-Dyne Site subject to and in

accordance with the provisions of Paragraph XIII hereof and such Settling Defendant and Settling Federal Agency shall have only those continuing obligations as are specifically set forth or reserved herein.

3. The Work as described in Paragraph V hereof and in the Remedial Action Plan shall be completed in accordance with the standards, specifications and within the time periods set forth in Paragraph V and in the Remedial Action Plan.

4. Subject to the provisions of Paragraph IV(A)(3) hereof, Plaintiffs and Settling Defendants agree that Appendix 3 sets forth a fair, reasonable and equitable apportionment of the costs for implementing the Work and making the reimbursements provided in Paragraph XI hereof.

5. (a) In the event (i) any Defendant elects not to participate in this Consent Decree, or (ii) any Settling Defendant fails to pay any amount required by this Consent Decree, or (iii) any other responsible party is identified, the Plaintiffs agree that it is their present intention, subject to prosecutorial discretion which shall not be subject to judicial review, to assert a claim against such non-participating Defendant, non-paying Settling Defendant or other responsible party to collect all response costs and damages unreimbursed by the terms of this Consent Decree.

(b) The Settling Defendants who pay the amounts required by this Consent Decree intend to instruct the Trustee, at the expense of the Chem-Dyne Site Trust Fund, to

assert claims against any non-participating Defendant, non-paying Settling Defendant, or other responsible party for all amounts which the Settling Defendants may be obligated to pay in excess of amounts allocated to them as shown in Appendix 3, including amounts for which they may be obligated pursuant to Paragraph IV(A)(3), and all such participating Settling Defendants hereby agree to assign to the Trustee each of such claims for indemnification and contribution.

6. Nothing in this Consent Decree shall constitute preauthorization of a claim against the Hazardous Substance Response Fund under the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 U.S.C. § 9601 et seq.

C. Permits and Approvals:

1. All activities undertaken by the Settling Defendants pursuant to this Consent Decree shall be undertaken in accordance with the requirements of all applicable local, state and federal laws, regulations and permits. The United States and the State have determined that the obligations and procedures authorized under this Consent Decree are consistent with the authority of the United States and State under applicable law to establish appropriate remedial measures for the Chem-Dyne Site.

2. The State of Ohio has issued an NPDES permit, UIC permits, and air permits, and will issue upon the filing of applications which comply with applicable law and the provisions of Paragraph V and the provisions of the

Remedial Action Plan, after a reasonable period for review, all necessary permits to install to the Settling Defendants through their nominee for the Work set forth in the Remedial Action Plan. The State of Ohio has determined that no other permits are necessary for the Work set forth in the Remedial Action Plan and Paragraph V hereof under the Resource Conservation and Recovery Act as amended, 42 U.S.C. § 6901 et seq., Chapter 3734 of the Ohio Revised Code, or the regulations and rules promulgated thereunder. The Settling Defendants shall obtain all other permits or approvals necessary under such laws and agree to submit applications and requests in accordance with all such requirements.

3. Plaintiffs agree to use their best efforts to issue promptly or cause to be issued the permits listed above upon the filing of applications which comply with applicable law and the provisions of Paragraph V and the provisions of the Remedial Action Plan, after a reasonable period for review.

4. In the event it becomes necessary for the Settling Defendants to obtain any permit or approval not listed above, Plaintiffs agree to use reasonable efforts within their authority to provide assistance to obtain such permits and approvals even if such permits or approvals do not fall within their respective jurisdictions, and the State agrees to use its best efforts to use any statutes, rules and regulations which may permit the State to issue summarily or cause to be issued such permits or approvals.

5. The standards and provisions of the Force Majeure clause of Paragraph IX below shall govern delays in obtaining permits required for the Work, the denial of any such permits, or difficulties due to the imposition of requirements not set forth in or contemplated by Paragraph V or the Remedial Action Plan.

V.

PERFORMANCE OF THE WORK BY  
SETTLING DEFENDANTS

A. Attached to this Consent Decree and made a part hereof as Appendix 1 is a Remedial Action Plan ("RAP") which has been developed by Settling Defendants in consultation with Plaintiffs. The Remedial Action Plan describes in detail how the Settling Defendants will implement the Work and provides a schedule for completion of certain phases of the Work. In the event of any inconsistency between this Paragraph V and the RAP, this Paragraph shall control. It is understood and agreed that the attachment of the RAP to this Consent Decree, and the Plaintiffs' agreement to the RAP, shall not constitute a warranty or representation of any kind by Plaintiffs and shall not foreclose Plaintiffs from seeking performance of all terms and conditions of this Consent Decree, including the performance goals and standards set forth herein.

B. Requirements for the Work:

1.0 The RAP consists of five (5) components:

(a) A groundwater extraction/reinjection

System designed to contain hydraulically

and remove the groundwater contaminant plume to stated levels;

- (b) a System to treat extracted groundwater to meet permit requirements for discharge or reinjection;
- (c) selected "hot spot" excavation and removal of soils; provided that excavation and removal are cost-effective and removal is to a site approved by USEPA;
- (d) a composite cap of natural and synthetic materials to isolate remaining soil contamination and effectively prevent its migration to the groundwater system; and
- (e) demolition of on-Site structures, in-place abandonment of Site utilities, and construction of a perimeter utility cut-off trench.

2.0 Groundwater Extraction/Reinjection System.

2.0.5 The location of the plume boundary, defined as the 0.1 ppm total priority pollutant volatile organic compounds ("VOC") isopleth, shall be determined by a series of three (3) consecutive monthly sampling events at all of the following locations:

- (a) all existing monitoring wells; and
- (b) one shallow and five intermediate depth monitoring wells to be constructed by the

Settling Defendants as shown on Figures 7 and 8 of the RAP.

- 2.1 The Settling Defendants shall, subject to the review and approval of USEPA and OEPA, design, construct, maintain and operate a groundwater extraction/reinjection and treatment System (hereinafter "the System"). The System shall be designed to achieve all performance goals and standards set forth in Subparagraphs 2.4, 2.7, 2.10, 2.11, 2.12 and 2.13, inclusive.
- 2.2 Downgradient of the Site, the outer-most series of extraction wells shall be placed at or beyond the contaminant plume boundary defined by Subparagraph 2.05. The location of this 0.1 ppm isopleth shall be determined before final design of the extraction/reinjection System in accordance with the plan set forth in Subparagraph 2.05.
- 2.3 There shall be six (6) compliance monitoring points outside the zone of inward hydraulic gradient of the extraction system, and upgradient from existing production wells at Champion Paper, Mercy Hospital and Beckett Paper as shown on Figure 14 of the RAP.
- 2.4 The extraction/reinjection System shall establish and maintain an inward hydraulic gradient, both vertically and horizontally, to ensure that

contaminants within the plume boundary as defined in Subparagraph 2.05 are contained within this boundary for removal and treatment. The plan for operation and maintenance of the System shall assure prompt replacement of parts of the System as necessary to maintain the inward hydraulic gradients without violating other requirements of this Consent Decree.

2.4.5 To ensure that inward gradients are being maintained, hydraulic-head/water level elevation monitoring will be performed by the Settling Defendants in accordance with the provisions of Subparagraph 8.3(c). If monitoring data show a lack of inward gradients, then Settling Defendants shall promptly submit to USEPA and OEPA a plan for corrective action. The chemical monitoring required in Subparagraph 8.3(c) shall also be considered to the extent that it is demonstrated to be relevant.

2.5 The performance of the System shall be evaluated annually by the Plaintiffs and the Settling Defendants in view of the design criteria set forth in Subparagraph 2.1. The System shall be adjusted or modified if the Plaintiffs and the Settling Defendants agree that the System is not performing acceptably in view of the design criteria in Subparagraph 2.1 and that adjustments



or modifications would be cost-effective and could be expected to improve performance. Adjustments or modifications can include but need not be limited to relocation or addition of extraction wells or changes of pumping rates as agreed to by the Plaintiffs and the Settling Defendants. In the event of disagreement as to the propriety for or nature of adjustments or modifications, the provisions of Paragraph X shall apply. In order to assure informed evaluations, Settling Defendants shall maintain records showing the pumping rate at each extraction well on a daily basis, which shall be provided to Plaintiffs as required in Paragraph VI. Nothing in this Subparagraph shall be deemed to limit the ability of Settling Defendants to adjust or modify the System consistent with this Consent Decree.

2.6 The groundwater extraction component of the System shall be operated for a minimum of ten (10) years.

2.7 Operation of the System may be terminated after ten (10) years whenever both of the following performance goals governing groundwater at the Site and within the plume boundary as defined in Subparagraph 2.0.5 are met:

- (a) a concentration of not more than 0.1 ppm total priority pollutant VOCs in each monitoring and extraction well within and on the defined plume boundary; and
- (b) the concentration of total priority pollutant VOCs has become effectively constant as defined in Subparagraph 2.16 below in each monitoring and extraction well within the defined plume boundary.

2.8 If after ten (10) years the concentration of total priority pollutant VOCs has become effectively constant, as defined in Subparagraph 2.16 below, in each monitoring and extraction well within and on the defined plume boundary but the performance goal of 0.1 ppm has not been met in each well, then operation of the System may be terminated if:

- (a) substantial compliance with the performance goal of 0.1 ppm total priority pollutant VOCs has been achieved (considering factors which may include but are not limited to variations in permeability which lead to persistence of high concentrations in certain wells, and averaging of concentrations in wells); and
- (b) the periodic reevaluations by the Plaintiffs and the Settling Defendants referred

to in Subparagraph 2.5 demonstrate that no reasonable System modification or adjustment, as agreed by the Plaintiffs and the Settling Defendants, will produce significant improvement within the remainder of the twenty (20) year period following commencement of operations of the System. In the event of disagreement, the provisions of Paragraph X shall apply.

- 2.9 If at the commencement of the twentieth year of operation of the System, both performance goals are not met, the Plaintiffs and the Settling Defendants shall determine whether further operation and modification would be cost-effective. If the Plaintiffs and the Settling Defendants agree that further operation would not be cost-effective, the System may be terminated. If the Settling Defendants disagree as to the necessity for further operation, the provisions of Paragraph X shall apply. Pending a decision by this Court, the System will continue to be operated.
- 2.10 The concentrations of total priority pollutant VOCs within the Site and the plume boundary as defined by Subparagraph 2.05 must be maintained effectively at or below the levels reached at the termination of the extraction system for a

period of five (5) years after termination of the extraction system. The determination as to whether the conditions of this Subparagraph are satisfied shall be made in accordance with the procedure defined in Subparagraph 2.18 below.

2.11 Based upon the data gathered to date, the Parties believe that groundwater to the south and southwest of the Site is not affected by contamination from the Site. To ensure that groundwater remains unaffected, three compliance points have been established; these are comprised of monitoring wells G19, G20, MW17, G21, G22, G23, G24, G25 and MW16 shown on Figure 14 of the RAP. The Settling Defendants shall monitor these compliance points as provided in Subparagraph 8.3(c). The following compliance criteria shall be used for these compliance points: (a) any water quality criteria for protection of human health (based on  $10^{-6}$  health risk criteria), (b) background conditions as determined in accordance with 40 C.F.R. § 264.97, or (c) detection limits attainable using the analytical methods prescribed by Subparagraph 2.17 below, whichever is highest; provided, however, that if the Parties agree, based on monitoring data, that water quality at any such compliance point is not representative

of background conditions: (i) the Parties will agree upon an additional location for replacement of that compliance point, and a new well shall be installed at that location using the procedures set forth in this Subparagraph, and (ii) the Parties shall determine whether the unrepresentative compliance point has been affected by the Site or by some other source of contamination and, if by the Site, the Settling Defendants shall submit a plan for necessary corrective action, if any.

2.12 Three compliance points have been established to the west of the Site; these are comprised of monitoring wells MW21, MW22, G15, G16, G17, G18, MW19, MW20 and MW32 as shown on Figure 14 of the RAP. The following compliance criteria shall be used for these points:

(a) The concentrations of total priority pollutant VOCs shall not exceed 0.1 ppm during the operation of the System and for a period of five (5) years after termination.

(b) During the operation of the System the concentration of other priority pollutants shall not exceed the maximum concentration of these compounds that are found prior to the commencement of the System operation in any one of the following monitoring wells: MW30, G1,

MW31, MW18, G3, MW33, G9, G10, G11, G12, and G13 as shown on Figure 16 of the RAP.

(c) For five (5) years after termination of the System operation, the concentration of other priority pollutants shall not exceed the maximum concentration of such compounds that are found at the commencement or termination of the System operation in any one of the monitoring wells identified in Subparagraph 2.12(b).

2.13 The production wells at Mercy Hospital and Beckett Paper will continue to be at least in substantial compliance with background conditions, as defined in Subparagraph 8.5, taking into account only the potential for temporary and insignificant degradation due to hydraulic proximity to the Chem-Dyne Site and contamination from sources other than the Chem-Dyne Site. The production wells at the City of Hamilton Power Plant and Champion Paper will continue to be at least in substantial compliance with baseline conditions, as defined in Subparagraph 8.3(c)(1), taking into account the potential for insignificant degradation due to hydraulic proximity to the Chem-Dyne Site. Predictive simulations based on a predictive model developed and calibrated with data compiled during the implementation of the

extraction/ reinjection operation, and mutually agreed upon by the Plaintiffs and the Settling Defendants, shall be used along with actual monitoring data to assess whether compliance with these standards has been and will be achieved.

2.14 If data from the sampling program, or the results of predictive modeling based on those data, indicate actual or potential noncompliance with the performance standards, goals or provisions of Subparagraphs 2.11, 2.12, or 2.13, an evaluation shall be made by the Plaintiffs and the Settling Defendants to determine whether the nature of noncompliance is significant or not significant. The evaluation shall also consider whether noncompliance is due to contamination from sources other than the Chem-Dyne Site. If the noncompliance is deemed significant by either USEPA or OEPA, and if the source of the noncompliance is determined to be the Chem-Dyne Site, the Settling Defendants shall submit a plan for further corrective action to both agencies within 90 days of notice of that determination.

2.15 The Settling Defendants retain the right to terminate the reinjection system at any time if they demonstrate that reinjection is no longer

necessary to meet performance goals and standards.

2.16 For purposes of this Paragraph, the determination of whether the concentration of total priority pollutant VOCs within the plume has become effectively constant shall be made on a well-by-well basis at all extraction and chemical monitoring wells on and within the plume boundary. The determination of whether the concentration at a well is effectively constant shall be made as follows:

- (a) Samples shall be taken at the locations and frequencies stated in Subparagraph 8.3(c).
- (b) The data from the twelve most recent samples will be examined and totals for VOCs computed and plotted as data points.
- (c) If the curve suggested by these data points is linear, then a straight line using a least squares regression model shall be fitted to the data and the slope of the fitted curve shall be computed as the estimated slope for purposes of this Paragraph.
- (d) If the data points suggest a curvilinear form, then an exponential curve using a least squares regression model shall be



fitted to the data. The estimated slope for purposes of this Paragraph shall be the first derivative of the curve at a value of time halfway between the last two sample points.

(e) The estimated slope shall be deemed to be zero if:

- 1) that slope is less than or equal to zero and greater than or equal to negative 0.02 ppm/year; and
- 2) the rate of change of that slope is equal to zero or indicates a continuously decreasing concentration.

(f) If the mean concentration in a well is less than or equal to 0.02 ppm, and the procedure in Subparagraphs 2.16(a)-(e) results in a positive slope, then the 95 percent confidence interval shall be calculated for the slope of the regression line; if a zero slope is within this confidence interval, then the estimated slope shall be deemed to be zero.

(g) The concentration at a well shall be deemed to be effectively constant if the estimated slope is deemed to be zero.

(h) Modifications to pumping rates or locations may be made by the Settling Defendants to improve performance of the System. No modification to pumping rates or locations may be made for the purpose of manipulating data results to support a finding of an effectively constant concentration at any well.

2.17 Analytical methods to be used in analyzing water samples to be collected as part of the requirements of this Consent Decree shall be as follows:

- (a) Priority pollutant volatile organics by USEPA Method 601 and 602. At the option of the Settling Defendants, compounds reported as detected by these methods shall be confirmed by USEPA Method 624 in order to demonstrate their actual presence.
- (b) Priority pollutant base/neutral and acid extractables by USEPA Method 625.
- (c) Priority pollutant pesticides by USEPA Method 608.

- 2.18 For purposes of this Paragraph, the determination of whether the conditions of Subparagraph 2.10 are satisfied shall be made as follows:

- (a) Total priority pollutant VOC concentrations for the last sampling event collected from

all monitoring and extraction wells within and on the plume boundary at the termination of the System will be statistically analyzed to determine the mean value and standard deviation of these data. This shall be considered the baseline value.

- (b) The results of any sampling event of the wells described in Subparagraph 2.18(a) after termination of the System shall also be statistically analyzed to determine the mean value and standard deviation of total priority pollutant VOC concentrations.
- (c) A statistical test shall be made to determine if the variance of the post-termination sampling event described in Subparagraph 2.18(b) is statistically equal to the variance of the baseline value calculated under Subparagraph 2.18(a).
- (d) Statistical tests shall be made to determine if the data from the sampling events referred to in Subparagraphs 2.18(a) and (b) are normally distributed.
- (e) If the variances are statistically equal as determined under Subparagraph 2.18(c) and the data are normally distributed as determined under Subparagraph 2.18(d), a

t-Test shall be made to determine whether the mean value of the sampling event described in Subparagraph 2.18(b) is significantly different from the baseline mean value calculated under Subparagraph 2.18(a) at a 5% level of significance.

- (f) If the variances are not statistically equal as determined under Subparagraph 2.18(c) and/or the data are not normally distributed as determined under Subparagraph 2.18(d), then an appropriate statistical test agreed upon by the Parties shall be used to determine whether the mean value of the sampling event described in Subparagraph 2.18(b) is significantly different from baseline mean value calculated under Subparagraph 2.18(a) at a 5% level of significance.
- (g) If the test in Subparagraph 2.18(e) or (f) indicates that the mean value calculated under Subparagraph 2.18(b) is not significantly different from the baseline mean value calculated under Subparagraph 2.18(a), the conditions of Subparagraph 2.10 shall be considered to have been satisfied.

- (h) If a significant increase in the mean value is determined in accordance with Subparagraph 2.18(e) or (f), a second round of sampling shall be conducted within thirty (30) days of receipt of the results of the first round of sampling.
- (i) If the results of the second round of sampling confirm the significant increase in the mean value calculated in accordance with Subparagraph 2.18(e) or (f), corrective action shall be taken by the Settling Defendants.

### 3.0 Groundwater Treatment

Prior to reinjection or surface discharge, extracted groundwater shall be treated by approved methods to the extent required to meet permit limits. The current planned treatment method is as follows:

- 3.1 Extracted groundwater will be pumped to an air stripping system. The design goal for the air stripping system shall be to remove at least 95% of the peak concentration of total priority pollutant VOC's influent to the system.
- 3.2 Vapor phase activated carbon shall be provided to remove contaminants from the off gases from the air stripping system.

- 3.3 The groundwater treatment system shall be designed, maintained and operated in a manner consistent with all applicable environmental permitting terms and conditions.
- 3.4 Contingencies shall be developed by the Plaintiffs and the Settling Defendants and implemented by the Settling Defendants in the event that any of the following events occur:
- (a) Existing treatment processes are determined to be insufficient to allow the discharged effluent to meet permit limitations;
  - (b) The groundwater treatment system is demonstrated to be a source of nuisance odors.

4.0 Soils

Soil contamination shall be addressed through several technologies designed to remove and/or isolate contaminants, including the following:

- 4.1 Certain areas with excessive concentrations of contaminants in near-surface soils shall be excavated and removed; provided that excavation and removal are cost-effective and removal is to a site approved by USEPA.
- 4.1.1 These areas include the following, as delineated on Figures 20 through 24 of the RAP.

- a. Surficial soils and ballast to a depth of one (1) foot in the rail dock area;
- b. Soils in the parking lot south of the blue warehouse near GS-5 with significant VOC contamination to a depth of 2.5 feet;
- c. Soils containing significant contamination adjacent to and beneath the sanitary sewer siphon located in the northwest sector of the Site that are reasonably accessible without undue interference with or hazard to the B&O Railroad trackage;
- d. Two (2) subsurface half mixing tanks, residual contents and excessive contamination adjacent to and beneath the buried tanks;
- e. The tank farm area west of the Chem-Dyne building to a depth of five (5) feet;
- f. Surficial soils within a ten (10) foot radius to a depth of one (1) foot at soil sampling

stations OS-3, OS-4, GS-6, and SS-5;

- g. A former gasoline underground storage tank, its residual contents and excessive contamination adjacent to and below the tank;
- h. Soils to a depth of 2.5 feet beneath the blue warehouse slab in the vicinity of soil sampling station BH 41.

4.1.2. The following areas of soil contamination shall be excavated and removed to a facility approved under the Toxic Substances Control Act:

- a. Surficial soils within a ten (10) foot radius to a depth of one (1) foot at soil sampling stations GS-4, SS-8 and BH-16;
- b. Sludge material and ballast in the coal bin.

4.2 Soil flushing or in-situ biological treatment may be further addressed at the option of the Settling Defendants subject to the approval of both Plaintiffs.



4.3 Portions of the Site as specified in the RAP shall be capped with a cap of composite construction consisting of a 24 inch layer of remolded clayey soil (with a maximum coefficient of permeability of  $10^{-7}$  cm/sec) overlain by a permeable sand zone overlain by a 60-mil. minimum thickness synthetic liner covered with a sand, loam and topsoil root zone for vegetative cover. The cap shall be graded to promote surface run-off and to minimize soil losses due to erosion.

4.3.1 Cap effectiveness shall be monitored in accordance with the requirements of Subparagraph 8.4(c).

4.3.2 A schedule shall be developed for the inspection, maintenance and repair, or replacement of the cap or its individual components at the cost of the Settling Defendants. The cap shall be maintained to provide protection against contact with, or off-site migration of, contaminated surficial site soils. The permeability of the synthetic liner and clay components of the cap shall be maintained to the degree and for the length of time necessary to ensure

compliance with the groundwater performance goals and standards enumerated in Subparagraph 2.1 and to prevent other routes of human exposure.

- 4.4 Contingencies shall be developed to respond to failures or losses in the efficiency of the cap.
- 4.5 Subject to Paragraph XIII(C), Settling Defendants may terminate responsibility for operation and maintenance of the cap at any time after termination of System operation and five (5) subsequent years of groundwater monitoring if they demonstrate to USEPA and OEPA that:
- (a) Maintenance and inspection of the synthetic liner, cover and clay components of the cap are no longer necessary for the continued maintenance and compliance with groundwater performance goals and standards enumerated in Subparagraph 2.1 and prevention of other routes of exposure to contamination; or
  - (b) Maintenance and inspection of the synthetic liner are no longer necessary for continued maintenance and

compliance with groundwater performance goals and standards enumerated in Subparagraph 2.1, and some other person or entity is willing and able to assume responsibility for such necessary maintenance of the cover and clay components of the cap.

In the event of a dispute under this Subparagraph, the decision of USEPA or OEPA shall be set aside only if found to be arbitrary and capricious.

5.0 Structures

Observable Waste Materials remaining within the on-Site structures shall be removed; provided that removal is cost-effective and is to a site approved by USEPA and OEPA. Asbestos waste shall be disposed of at a site approved for disposal of asbestos. The structures themselves shall be demolished.

5.1 Prior to any removal, demolition or decontamination efforts, the on-Site structures shall be surveyed visually to locate and identify Waste Materials remaining within those structures. This inventory of disposal requirements shall include, inter alia:

- a. waste samples stored in the Chem-Dyne building;

- b. unidentified gas cylinders ("lecture bottles") also stored in the Chem-Dyne building, which shall be disposed of in a cost-effective manner;
- c. all above-ground asbestos and asbestos debris; and
- d. all above-ground piping which may have transported Waste Materials.

5.2 Prior to building demolition, a procedure shall be developed and agreed upon to identify structural components which are significantly contaminated. This procedure shall emphasize visual observations and minimize sampling requirements.

5.2.1 Demolition debris which is determined by OEPA and USEPA not to be significantly contaminated and which has been reduced to minimum volume may be placed on-site as contouring material (fill) under the Site cap.

5.2.2 Demolition debris which is determined by USEPA or OEPA to be significantly contaminated shall be removed, provided that removal is cost-effective and is to a site approved by USEPA.

5.2.3 Structural steel which is determined by OEPA and USEPA not to be significantly contaminated or which has been decontaminated may be salvaged for smelting.

5.3 Prior to building demolition, the Settling Defendants shall make arrangements acceptable to Hamilton Electric to maintain the hydro-electric facility in the north end of the Ford building in an operable, structurally sound, and accessible condition in both the short and long term, consistent with pre-demolition conditions.

5.4 Work plans shall be prepared and followed to ensure that the demolition activities comply with the NESHAPS standards under 40 C.F.R. Part 61 and result in minimal air emissions.

5.5 The Parties shall determine the need for and the Settling Defendants shall implement any associated or ancillary activities which may be required. Such activities could include, but need not be limited to, the relocation of overhead utilities such as electrical distribution and communication lines.

#### 6.0 Site Utilities

All existing on-Site utilities shall be abandoned in place or rehabilitated to ensure that

they will not serve as conduits for contaminant migration.

- 6.1 All existing Site utilities shall be identified by the Settling Defendants. Plans acceptable to OEPA and USEPA for utilities abandonment in place or rehabilitation shall be prepared. The need for replacement utilities to serve tributary off-Site users shall also be identified and such needs provided for in those plans.
- 6.2 A perimeter cut-off trench located within the outer limits of the Site cap shall be excavated to ensure that all utilities entering or leaving the Site have been located, sealed and cut off as potential avenues of contaminant migration. Appropriate monitoring shall be conducted. Soils from the excavation of the trench shall be assessed for visible contamination and monitored by an organic vapor analyzer. Soils determined by USEPA or OEPA to contain significant contamination shall be removed; provided that removal is cost-effective and is to a site approved by USEPA. Soils determined by USEPA and OEPA not to be significantly contaminated may be used as backfill for the excavated trench.
- 6.3 These construction activities shall be designed and implemented to minimize air emissions and

to avoid or minimize the disruption of utilities services to others. Contingency plans shall be prepared to address these considerations and to respond to the unintentional damage of other operating utilities.

[7.0 OMITTED]

8.0 Monitoring of the Remedial Action Plan

8.1 The conceptual objectives of the monitoring programs that shall be included in the Remedial Action Plan are four-fold: (1) to ensure that the performance measures of each component of the RAP are being achieved; (2) to determine if changes in the physical and chemical systems at the Site have occurred that "trigger" the proposed contingencies; (3) to ensure that permit conditions and regulatory requirements are being achieved; and (4) to ensure against significant adverse environmental impact.

8.2 To meet the objectives set forth in Subparagraph 8.1, frequency and duration of measurement, monitoring locations, and parameters shall be in accordance with the requirements of Subparagraph 8.3. The duration of monitoring requirements in this Consent Decree shall not limit the provisions of Paragraph XIII(C).

8.3 The following monitoring plan shall be implemented by the Settling Defendants:

- (a) Provisions to allow for the inspection and monitoring of the groundwater treatment system in a manner and at a frequency consistent with the NPDES permit referenced in Paragraph IV(C), herein. This includes sampling of influent and effluent and the receiving waters, the performance of biological monitoring and bioassay toxicity testing and such other monitoring as may be required by the terms and conditions of the permit or for efficient operation of the treatment system;
- (b) Provisions for the testing and monitoring of any source(s) of air pollution in a manner and at a frequency consistent with the terms and conditions of any Permit to Install and/or Permit to Operate issued for each such source;
- (c) For Groundwater:
  - (1) The groundwater monitoring program shall be implemented before and during the operation and for five (5) years after the termination of the groundwater extraction system. Monitoring locations are shown in



Figures 11, 12, 13, 14 and 15 of the RAP. For the purpose of this Subparagraph, and with respect to the screened interval of the new monitoring and compliance wells to be installed by the Settling Defendants under Subparagraphs 2.0.5(b) and 2.3, shallow is defined as 0-15 feet, intermediate as 25-40 feet, and deep as 50-75 feet below the mean annual water table, respectively. The frequency of monitoring shall be as follows:

- (i) To determine baseline conditions, production wells at Champion Paper Company and City of Hamilton Power Plant shall be sampled for two consecutive months prior to the commencement of System operation and analyzed for all priority pollutant organic compounds. In instances where the concentrations for the two consecutive samplings are significantly different, the wells in question shall be sampled for a third month. The average concentrations from

these two or three sampling events at each well shall be considered to represent baseline conditions at that well.

(ii) Compliance point monitoring wells shall be monitored semi-annually for priority pollutant volatile organic compounds and annually for all other priority pollutants during the years of System operation and for five (5) years after termination.

(iii) All monitoring wells and extraction wells at and inside the 0.1 ppm isopleth shall be monitored quarterly for priority pollutant volatile organic compounds during the last three years of operation of the System. Upon termination of the System, these wells shall be monitored quarterly for the first two years and semi-annually for the remaining three years for priority pollutant volatile organic compounds.

- (iv) All monitoring wells beyond the 0.1 ppm total VOC isopleth shall be monitored annually for priority pollutants for the duration of System operation and for five (5) years after termination.
- (v) During and for five (5) years after termination of System operation, the frequency of sampling at compliance point monitoring wells shall be increased to quarterly if at any time the concentrations of priority pollutants exceed the compliance standards specified in Subparagraphs 2.11 and 2.12.
- (vi) During and for five (5) years after the termination of System operation, the frequency of sampling at monitoring wells outside the plume boundary shall be increased to quarterly for a minimum of six months if at any time the concentration of total priority pollutant VOCs exceeds 0.1 ppm. If this occurs during

two consecutive sampling events, an evaluation shall be made to determine the significance of this occurrence.

- (vii) Two production wells at Champion Paper Co. (wells #1 and #4) and one production well each, as accessible, at Hamilton Electric Power Co., Mercy Hospital and Beckett Paper Co. shall be monitored annually for total priority pollutant VOCs. If the new intermediate depth well to be installed by the Settling Defendants near the Vaughn Construction Company production well exhibits significant contamination, the Vaughn Construction Company production well shall also be sampled at the same frequency and for the same compounds as the other production wells.

- (2) The groundwater monitoring plan shall address three (3) distinct separate components: (i) performance standard

assessment, which includes measurement of hydraulic head, (ii) compliance point evaluation, which includes monitoring contaminant levels (Subparagraph 2.4.5) and (iii) evaluations of all monitoring and extraction wells within the plume boundary for System termination, including monitoring contaminant levels (Subparagraph 2.16).

- (3) Hydraulic heads shall be measured at approximately 15-day intervals during the first year of System operation and at approximately 30-day intervals thereafter to ensure that an inward hydraulic gradient is being maintained. Water levels shall be measured in all existing and new monitoring and extraction wells and in the piezometers described in Subparagraph 8.3(c)(4).
- (4) A series of six (6) water level piezometers, each with a five-foot maximum length bottom screened interval, shall be emplaced at six (6) locations along the plume boundary. Automatic water-level recorders

shall be installed, maintained, and operated, one at each shallow piezometer in the clusters described in Subparagraph 8.3(c)(5). Each such shallow piezometer shall be constructed in a manner that will not impede the operation of the recorder. Data from these piezometers and recorders will be used to assess the performance of the System with respect to maintaining an inward hydraulic gradient. Settling Defendants reserve the right to challenge the accuracy or reliability of any data generated by the recorders. After any significant modification to the System or if water levels at a point or points in the monitoring network are unstable, then the frequency of water-level measurements shall be increased to a 15-day interval in wells within a 250-foot radius of the affected well or wells for a minimum of three consecutive months.

- (5) The piezometers shall be emplaced in the manner illustrated in Figure 12

of the RAP. A cluster of three piezometers, consisting of a shallow depth, an intermediate depth and a deep piezometer, shall be placed on the plume boundary for the purpose of providing vertical head distribution data with which to determine whether inward vertical gradients are being maintained. For purposes of this Paragraph, and with respect to the open interval of the piezometers to be installed, shallow is defined as 10-15 feet, intermediate as 35-40 feet and deep as 70-75 feet below the mean annual water table, respectively. A fourth piezometer shall be placed outside and normal to the plume boundary and the remaining piezometers shall be placed along the plume boundary on either side of the piezometer cluster.

8.4 As part of the final design, the Settling Defendants shall submit to USEPA and OEPA a detailed monitoring plan for the remainder of the components of the Remedial Action Plan. This monitoring plan shall include the following:

- (a) Monitoring programs designed to collect such data as may be required to implement a site-specific worker safety plan;
- (b) Air monitoring programs designed to assess the impacts of remedial activities on the surrounding community and provide for public safety;
- (c) Programs for monitoring cap performance via the use of neutron probes and coupon samples of the synthetic liner material installed proximate to and under the same conditions as the synthetic liner itself. Coupon samples shall be evaluated every third year. Visual inspection of the cap for slumping and erosion shall be performed quarterly or more frequently as necessitated by Site conditions. There shall be 15 neutron probes consistent with the need to provide at least one neutron probe per acre. Neutron probes shall be monitored once in the spring and once in the fall each year for three-day periods immediately following a significant precipitation event.

8.5 To determine background conditions for Beckett Paper and Mercy Hospital, the Settling Defendants



shall conduct a monitoring program which meets the requirements of 40 C.F.R. § 264.97.

VI.

REPORTING AND RECORD KEEPING;  
RETENTION AND AVAILABILITY OF INFORMATION

A. The Settling Defendants shall cause the Contractor to provide written progress reports to US EPA, Region V, Director, Waste Management Division, Attention Chem-Dyne OSC, 230 South Dearborn Street, Chicago, Illinois 60604, and to Director, Ohio E.P.A., Attention Chem-Dyne SC, 361 East Broad Street, P.O. Box 1049, Columbus, Ohio 43215, as required by this Paragraph or the Remedial Action Plan, and containing the information therein required. At a minimum, these reports shall include:

1. Monthly Progress Reports during System construction and for two years thereafter. These shall be submitted on the tenth day of each month setting forth a summary of activities, including:

- (a) any change or modification in the System or Work schedule; and

- (b) a schedule of the activities planned for the following month.

2. Major Milestone Reports during the period from two years following completion of System construction to the termination of the System. These shall be submitted within thirty (30)

days of the completion of any major milestone shown on Figure 28 of the RAP, shall include a summary of activities undertaken toward, and problems encountered, if any, in the attainment of the Major Milestones, and shall describe any System modifications that were necessary for attainment.

3. Emergency/Major Modification Reports. In the event of any emergency event or planned major modification to the System, not previously the subject of notice to USEPA and OEPA, the Settling Defendants shall promptly notify the OSC and the SC by telephone, or in the event of their unavailability, the Director of Waste Management Division of USEPA, and shall within thirty (30) days supply a written report setting forth the major modification planned, and/or the emergency events that occurred and the measures taken and to be taken in response. If appropriate, these reports may be used also to satisfy the reporting requirement established by Paragraph IX hereof.

4. Emergency/Major Modification Conclusion Reports. Within thirty (30) days of the conclusion of any emergency event or major modification, the Settling Defendants shall submit a report setting forth the actions taken to effect the

major modification and/or to respond to the emergency events.

5. Periodic Monitoring Reports that shall on a prompt basis provide the raw monitoring data gathered as part of the Work, whether or not such data are required to be gathered by this Consent Decree or the RAP.
6. Annual Monitoring Reports that shall provide annual summaries of the monitoring data gathered as part of the Work, whether or not such data are required to be gathered by this Consent Decree or the RAP, including daily pumping rates and water level readings, along with a description of any operational steps taken or planned on the basis of those data.

B. The Settling Defendants shall direct the Trustee to provide Plaintiffs with copies of the periodic financial reports that the Trustee is obligated to provide the Settling Defendants by the Trust Agreement at the offices set forth in Paragraph VI.A at the same time that they are provided to the Settling Defendants.

C. Until completion of the Work and termination of this Consent Decree, the Settling Defendants shall preserve, and shall instruct the Contractor to preserve, all records, documents and information of whatever kind, nature or description relating to the performance of the Work at the Chem-Dyne Site. Upon the completion of the Work and termination of this

Consent Decree, all such records, documents and information shall be delivered to USEPA.

D. Counsel for Plaintiffs and one liaison counsel designated by the Settling Defendants shall retain copies of all depositions and discovery responses in this case for a period of ten (10) years.

VII.

GRANT OF SITE ACCESS

A. Access to the Site is hereby granted and ordered to the Trustee, Contractor, USEPA and OEPA, and the Settling Defendants and their representatives for purposes of effectuating and monitoring all terms of this Consent Decree and performing the Work called for by Paragraph V and the Remedial Action Plan, and for purposes of response actions pursuant to Paragraph XVI. No property of the Plaintiffs left at the Chem-Dyne Site shall be deemed a fixture and all such property shall remain the property of the Plaintiffs.

B. The Property Owners hereby specifically consent to and grant all approvals for all action undertaken pursuant to Paragraph V, the Remedial Action Plan and the Work, including, without limitation and by way of example only, the removal of soil, the removal of utility lines and other facilities, the destruction of buildings, the capping of the Chem-Dyne Site, and the removal, closing, disconnecting and trenching of all utilities at the Chem-Dyne Site.

C. No conveyance of title, easement or other interest in the Chem-Dyne Site shall be consummated without a provision permitting the continued operation and maintenance of the monitoring and pumping wells, the cap, treatment facilities and any other facilities and work done pursuant to Paragraph V and the Remedial Action Plan, and all such conveyances of title, grants of easements or other conveyances of any interest in the Chem-Dyne Site shall contain a covenant to permit such facilities and work. At least 90 days prior to any conveyance, the Property Owners shall notify the Plaintiffs by registered mail of the intent of the Property Owner to convey any interest in the property, and of the provisions made permitting the continued operation and maintenance of the wells, cap and treatment facilities installed pursuant to Paragraph V and the Remedial Action Plan. The restrictions and obligations set forth herein shall run with the land and shall be binding upon any and all parties who acquire any interest in the Chem-Dyne Site. In addition, the Settling Defendants shall promptly give notice to Plaintiffs of any actual or expected conveyance of any interest in any property not part of the Chem-Dyne Site but used to implement the Work, to the extent such conveyance is within the knowledge of the Settling Defendants. The Settling Defendants shall require the Contractor to notify Plaintiffs of any such actual or expected conveyance.

D. To the extent access to or easements over property other than the Chem-Dyne Site is required for the

proper and complete performance of this Consent Decree, the Settling Defendants shall use their best efforts to gain access to or easements over such property and, if necessary, Plaintiffs agree to use their best efforts, consistent with their legal authority, to assist the Settling Defendants in obtaining such access. The Force Majeure clause of Paragraph IX hereof shall govern any delays caused by difficulties in obtaining access to or easements over property not included in the Chem-Dyne Site. In the event Plaintiffs exercise their powers of eminent domain in order to effectuate the purpose and goals of the Consent Decree, the Settling Defendants shall reimburse the Plaintiffs for any amount of just compensation and costs awarded or incurred in the exercise of such powers. Plaintiffs shall condemn only those property interests necessary for implementation of the Work, except as otherwise required by law.

E. The State agrees to use its statutory and regulatory authority to prohibit the installation of wells into contaminated groundwater at or near the Chem-Dyne Site within the area marked on Appendix 5, or as it may be enlarged or reduced by OEPA following consultation with USEPA. This prohibition shall not apply to wells installed as part of the Work. --

F. A copy of this Consent Decree and a copy of any order issued by OEPA pursuant to Subparagraph E of this Paragraph shall be filed for record in the Office of the Recorder of Butler County, Ohio as a lien and encumbrance on

all parcels comprising the Chem-Dyne Site. The Property Owners agree to execute such instruments and documents, if any, as may be required to entitle the terms of this Consent Decree to be recorded in the Office of the Recorder of Butler County, Ohio.

VIII.

ON-SCENE COORDINATOR

The United States may designate an On-Scene Coordinator ("OSC") and the State a Site Coordinator ("SC") for the Chem-Dyne Site, and may designate other representatives, including USEPA and OEPA employees, and federal and state contractors and consultants, to observe and monitor the progress of any activity undertaken pursuant to this Consent Decree. The OSC shall have the authority lawfully vested in him by the National Contingency Plan, 40 C.F.R. Part 300.

IX.

FORCE MAJEURE

A. "Force Majeure" for purposes of this Consent Decree is defined as any event arising from causes beyond the control of the Settling Defendants which delays or prevents the performance of any obligation under this Consent Decree. "Force Majeure" shall not include increased costs or expenses or non-attainment of the goals and standards set forth in Paragraph V hereof or the Remedial Action Plan, except as specifically provided therein, or failure to apply for any required permits or approvals or to provide all required

information therefor in a timely manner. "Force Majeure" may include delay in obtaining permits necessary for the Work or access to property upon which the Work is to be done, provided that such delay could not have been overcome by due diligence.

B. When circumstances are occurring or have occurred which may delay the completion of any phase of the Work or delay access to the Site or to any property on which any part of the Work is to be performed, whether or not due to a "force majeure" event, the Settling Defendants shall promptly notify the OSC and SC by telephone, or in the event of their unavailability, the Director of the Waste Management Division of USEPA, and shall within thirty (30) days supply to the Plaintiffs in writing the reason(s) for and anticipated duration of such delay; the measures taken and to be taken by the Settling Defendants to prevent or minimize the delay; and the timetable for implementation of such measures. Failure to so notify the OSC and SC shall constitute a waiver of any claim of force majeure.

C. If the Plaintiffs agree that a delay is or was attributable to a "force majeure" event, the Parties shall modify the Remedial Action Plan to provide such additional time as may be necessary to allow the completion of the specific phase of the Work and/or any succeeding phase of the Work affected by such delay, not to exceed the actual duration of the delay.

D. If the Plaintiffs and the Settling Defendants cannot agree whether the reason for the delay was a "force



majeure" event, or whether the duration of the delay is or was warranted under the circumstances, the Dispute Resolution provisions of Paragraph X shall apply.

X.

DISPUTE RESOLUTION

A. Any dispute which arises with respect to the meaning or application of this Consent Decree or the Appendices hereto shall in the first instance be the subject of informal negotiations between and among Plaintiffs and the Settling Defendants. If the Plaintiffs and the Settling Defendants cannot resolve the dispute within thirty (30) days from the time the dispute arises, then either Plaintiff, any Settling Defendant, or the Trustee or its designee may <sup>move to reopen</sup> ~~file a petition with this Court setting forth the matter in dispute and the relief requested.~~ <sup>this matter for the limited purpose of resolving such dispute.</sup> In an emergency, any Party may file a petition prior to the expiration of the thirty (30) day period. The period for negotiations may be extended by mutual agreement between the Plaintiffs and either the Settling Defendants or a representative designated by the Trustee.

B. Unless provided for herein, this Consent Decree does not establish burdens of proof or standards, timing, or jurisdiction for review, but only the procedures applicable to the resolution of disputes between the Parties.

XI.

REIMBURSEMENT

A. Within 45 days of the entry of this Consent Decree, Premium Settling Defendants shall pay the total amount of funds in the Chem-Dyne Site Escrow Account, and the Settling Defendants through the Trustee shall pay an additional sum so that the total payment under this Subparagraph XI(A) is \$4.0 million, to the United States as reimbursement of Response Costs incurred by the United States and covered by this Consent Decree. Payment shall be delivered to U.S. EPA, Superfund, P.O. Box 371003M, Pittsburgh, Pennsylvania 15251, and made payable to "EPA Hazardous Substances Response Fund."

B. The Settling Defendants, through the Trustee, shall pay the following amounts to the State of Ohio as reimbursement of Response Costs and natural resources damages and other costs and damages on or before the following dates: \$1.0 million -- on or before the 40th day following entry of this Consent Decree; \$1.0 million -- on or before December 31, 1986; \$1.430 million -- on or before December 31, 1987. Payment shall be delivered to Office of the Ohio Attorney General, 30 East Broad Street, 17th Floor, Columbus, Ohio 43215, attention: Chem-Dyne Coordinator, and made payable to Treasurer, State of Ohio.

C. The payments required by Subparagraphs A and B shall be made whether or not each Defendant pays to the Chem-Dyne Site Trust Fund or the Chem-Dyne Site Escrow Account the amounts set forth in Appendix 3 hereof. Within 45 days of

the entry of this Consent Decree, the Settling Defendants, through the Trustee, shall provide a certification to the Plaintiffs identifying any Settling Defendant that has not made the payment required of it by Paragraph IV.A.1.

D.1. Settling Defendants acknowledge that the United States claims that the total Response Costs incurred by it in connection with the Chem-Dyne Site were calculated as of approximately November 16, 1984 as \$7,125,746 composed of the following items:

USEPA

Emergency Removals	\$ 55,606
Comprehensive Surface Cleanup	3,516,018
Remedial Investigation/Feasibility Studies	1,545,616
National Laboratory Contract	276,371
Field Investigation Team	397,529
Enforcement Contracts	39,690
Technical Assistance Team	9,579
National Enforcement Investigation Center	151,522
Payroll	217,251
Travel	97,057
Robert S. Kerr Lab	40,718
Overflights	5,391

Department of Justice \$ 773,398

2. In addition, the releases and covenants not to sue herein include those costs which USEPA has estimated will be necessary for its own oversight of the Work in the future, but excluding costs identified in Paragraph XIII.C. Settling Defendants acknowledge that oversight costs that are covered by the releases and covenants not to sue herein have been estimated by USEPA to total \$386,383, assuming fifteen years of oversight. The Parties also acknowledge that, under a 1982 Settlement Agreement among Plaintiffs and some of the present

Settling Defendants, the United States was paid \$2,208,150 towards some of the Response Costs identified in this Subparagraph.

3. The Response Costs enumerated in Subparagraph D(1) above were incurred by the United States and were not inconsistent with the National Contingency Plan.

4. Settling Defendants further acknowledge that the State claims that the total Response Costs and natural resource damages incurred by it in connection with the Chem-Dyne Site total \$13,683,376.26 composed of the following items:

Ohio E.P.A. Response Costs

Costs to date	\$	1,336,438
Future oversight costs (estimated)		
- Ohio EPA personnel (over twenty years of oversight)		250,000
- GeoTrans contract costs (over fifteen years of oversight)		1,296,524

Ohio Attorney General's Response Costs

Costs to date	689,545
Future oversight costs (estimated) for over twenty years of oversight	110,869

Natural Resource Damages

(excluding Hamilton South well-field contingency costs)	10,000,000
---	------------

5. The Response Costs enumerated in Subparagraph D(4) above were incurred by the State and were consistent with the National Contingency Plan.

6. Settling Defendants and Plaintiffs acknowledge and agree that the payments made pursuant to this Paragraph XI represent a settlement and compromise of a disputed claim and

that the settlements so paid are fair, reasonable and equitable.

XII.

EFFECT OF SETTLEMENT

A. This Consent Decree was negotiated in good faith by the Plaintiffs and Settling Defendants and, subject to the provisions of Paragraph IV.A, the individual Settling Defendants' and Settling Federal Agencies' payments described in Appendix 3 represent a fair, reasonable and equitable apportionment of the total settlement costs.

B. Accordingly, Plaintiffs acknowledge that each and all of the Settling Defendants should not be liable in contribution to any Defendant or other party for matters covered by this Consent Decree and agree that this Consent Decree will be dispositive of each and all of the Settling Defendants' duties and liabilities with respect to any other party against whom a claim is made by the Plaintiffs for matters covered by this Consent Decree. Accordingly, in any action brought by the United States or the State or by any Settling Defendant or the Trustee against any Non-Settling Defendant or against any Settling Defendant which does not make the payments required of it under Paragraph IV.A and XI.C or any other action brought against a responsible party, the Parties hereto agree and this Court hereby finds and concludes that the principles of Section 4 of the Uniform Contribution Among Tortfeasors Act (1955) shall govern, and the Parties

agree to be bound by such principles and to assert and pursue that position in any such proceeding.

C. Each Settling Defendant agrees that with respect to any suit or claim for contribution brought against it for matters covered by this Consent Decree, it will timely notify the Plaintiffs of the institution of such suit or claim.

D. Except as expressly provided in Paragraph XIII or XIV of this Decree, no Defendant to this action may now or hereafter assert or bring any action or claim in this or any other action or proceeding against any Settling Defendant or Premium Settling Defendant arising out of or relating to any matter released in Paragraph XIII or XIV.

XIII.

MUTUAL RELEASE AND COVENANT NOT TO SUE

A. Except as specifically provided hereafter in Subparagraph C, upon compliance by the Settling Defendants with Paragraph XI hereof, Plaintiffs and each Settling Defendant hereby release and covenant not to sue each other as to all common law claims and civil state and federal claims and causes of action under provisions of environmental statutes, regulations, or other environmental laws administered and enforced by USEPA or the State, and claims for natural resource damages by the U.S. Department of the Interior, which have been, or could have been asserted against each other as of the effective date of this Consent Decree, arising out of all

matters which were raised, or could have been raised, relating to or arising from the Chem-Dyne Site, including claims against the Hazardous Substances Response Fund and claims for natural resource damages by the State. This Paragraph XIII shall not be construed as a release or covenant not to sue any Defendant who does not make all payments required by this Consent Decree or any other person or entity not a party to this Consent Decree.

B. In consideration of the payments referred to in Paragraph XI.B herein, the State hereby assumes all responsibility for additional remedial action relating to the City of Hamilton south well field if any such action is ever necessitated by virtue of contaminants from the Chem-Dyne Site, and the State agrees to indemnify and hold harmless the Settling Defendants if any claim cognizable under CERCLA relating to or arising from the Chem-Dyne Site is ever asserted against them with respect to the City of Hamilton south well-field. Nothing in this Subparagraph shall be construed as a release or covenant not to sue by the United States in favor of the Settling Defendants with respect to any such claims.

C. This Mutual Release and Covenant Not to Sue shall not apply to the following:

1. Failure to perform the Work in accordance with law or failure to meet the requirements of this Consent Decree or the Remedial Action Plan; or

2. Liability arising from the off-site disposal of Waste Materials taken from the Chem-Dyne Site; or

3. Complaints, cross-claims, counterclaims, and/or third-party complaints between and among Plaintiffs and/or Settling Defendants in, or arising out of, any private action brought by any person or entity not a party to this litigation; or

4. Any costs incurred by either Plaintiff as a result of the exercise of their response authority under 42 U.S.C. § 9604 due to a release or substantial threat of a release at or from the Chem-Dyne Site as a result of the failure of the Settling Defendants to perform the Work or meet the requirements of Paragraph V or the Remedial Action Plan, whenever the Settling Defendants have failed to so respond after reasonable notice. In the event the Settling Defendants fail to implement the provisions of Paragraph V and the Remedial Action Plan in a timely manner, either Plaintiff may perform such portions of the Work as may be necessary, at the cost of the Settling Defendants, subject to Paragraph IX hereof; or

5. Any damages incurred by either Plaintiff as a result of any release or substantial threat of release of hazardous substances at or from the Chem-Dyne Site which results from failure(s) of the Settling Defendants to perform the Work or meet the requirements of this Consent Decree or the Remedial Action Plan.



6. Nothing herein shall be construed to limit the authority of the United States or the State to undertake any action against any Settling Defendant in response to or to recover the costs of responding to conditions at or from the Chem-Dyne Site which may present an imminent and substantial endangerment to the public health, welfare or the environment if:

- (1) Either (a) previously unknown or undetected conditions at or from the Chem-Dyne Site or (b) other previously unknown facts arise or are discovered after execution by the Parties of this Consent Decree; or
- (2) The conditions are caused by the implementation of the Remedial Action Plan or this Consent Decree.

#### XIV.

##### FULL RELEASE FOR CERTAIN SETTLING DEFENDANTS

Except as otherwise provided in this Paragraph XIV, Plaintiffs, Settling Defendants and those Settling Defendants listed in Appendix 4 ("Premium Settling Defendants") hereby release and covenant not to sue each other as to all common law claims and civil state and federal claims and causes of action under provisions of environmental statutes, regulations, or other environmental laws administered and enforced by USEPA or the State, and claims for natural resource damages by the U.S. Department of the Interior, which have been, or

could have been asserted against each other as of the effective date of this Consent Decree, arising out of all matters which were raised, or could have been raised, relating to or arising from the Chem-Dyne Site, including (i) claims against the Hazardous Substances Response Fund and claims for natural resource damages by the State, and (ii) claims that would be preserved by the provisions of Paragraph XIII(C) herein if Premium Settling Defendants were subject to Paragraph XIII. Notwithstanding any other provisions of this Decree, Premium Settling Defendants shall have no other obligations except as set forth or reserved in this Paragraph XIV. This Paragraph XIV shall not be construed as a release or covenant not to sue any Defendant who does not make all payments required by this Consent Decree or any other person or entity not a party to this Consent Decree.

B. The release and covenant not to sue contained in this Paragraph XIV is given in consideration of a payment by each Premium Settling Defendant of the amount shown for such company in column 9 of Appendix 3. Each such payment represents an amount equal to or greater than the fair share of the respective Premium Settling Defendant for all released matters herein, and no such payment is a fine, penalty or monetary sanction of any kind.

C. The releases and covenants not to sue contained in this Paragraph XIV shall not apply to the following:

1. Any claim or demand for personal injury, property damage or "toxic tort" claims of any kind; or

2. Liability arising from the off-site disposal of Waste Materials taken from the Chem-Dyne Site; provided that this exception shall not apply to Waste Materials from the treatment or reinjection components of the System.

D. In the event it is ever shown that any Premium Settling Defendant is responsible under CERCLA or other laws or regulations referred to in Subparagraph A of this Paragraph for more than 200 drums (or drum equivalents) of Waste Materials ever at the Chem-Dyne Site, the release and covenant not to sue provided in this Paragraph XIV shall be null and void as to such Premium Settling Defendant. In that event, such Premium Settling Defendant shall be subject instead to Paragraph XIII.

E. Upon payment to the Chem-Dyne Site Escrow Account of the amount set forth in column 9 of Appendix 3, each Premium Settling Defendant shall be released from liability with regard to the Chem-Dyne Site subject to and in accordance with the provisions of this Paragraph XIV.

F. Settling Defendants subject to Paragraph XIII(C) hereby assume all liability to Plaintiffs that could at any time be imposed upon any Premium Settling Defendant under Paragraph XIII(C) if such Premium Settling Defendant were subject to Paragraph XIII(C), subject only to the defenses that such Premium Settling Defendant would have.

XV.

NOTICES

Whenever under the terms of this Consent Decree notice is required to be given, a report or other document is required to be forwarded by one party or another, or service of any papers or process is necessitated by the Dispute Resolution provisions of Paragraph X, it shall be directed to the following individuals at the addresses specified below:

As to the United States:

a. Assistant Attorney General  
Land and Natural Resources  
Division  
Department of Justice  
Washington, D.C. 20530  
Ref: DOJ 90-7-1-43

As to the State of Ohio:

a. Attorney General  
State of Ohio  
Attention: Chem-Dyne  
Coordinator  
State Office Building  
17th Floor, 30 East Broad  
Street  
Columbus, Ohio 43215

As to the United States:

b. Director, Waste Management  
Division  
Attn: Chem-Dyne On Scene  
Coordinator  
U.S. Environmental  
Protection Agency  
230 South Dearborn Street  
Chicago, Illinois 60604

As to the State of Ohio:

b. Director, Ohio Environmental  
Protection Agency  
Attn: Chem-Dyne Site  
Coordinator  
361 East Broad Street  
Columbus, Ohio 43215

As to All Settling Defendants:

The Trustees of the

Chem-Dyne Site Trust Fund.

:

XVI.

CONSISTENCY WITH  
NATIONAL CONTINGENCY PLAN

The United States and the State agree that the Work, if properly performed as set forth in Paragraph V hereof, is consistent with the provisions of the National Contingency Plan pursuant to 42 U.S.C. § 9605, and, subject to Paragraph XIII, all actions taken or omitted pursuant to the Remedial Action Plan are afforded all protection contained in 42 U.S.C. § 9607(d).

XVII.

RESPONSE AUTHORITY

Nothing in this Consent Decree shall be deemed to limit the response authority of either Plaintiff under 42 U.S.C. 9604, or of the State under Chapters 3704, 3734, 3767 or 6111 of the Ohio Revised Code, or to alter the applicable legal principles governing the judicial review of any action taken by USEPA or OEPA pursuant to that authority.

XVIII.

MODIFICATION

Except as provided for herein, there shall be no modification of this Consent Decree without written approval of all Parties to this Consent Decree.

XIX.

EFFECTIVE AND TERMINATION DATES

A. This Consent Decree shall be effective upon the date of its entry by the Court.

B. When the Settling Defendants believe that the Work has been completed, they shall petition this Court for termination of this Consent Decree, which then shall terminate 180 days thereafter unless either Plaintiff objects within that period of time. Termination shall not affect the provisions of Paragraph XIII or XIV.

XX.

USE OF DECREE

This Consent Decree was negotiated and executed by Plaintiffs and the Settling Defendants in good faith to avoid further expensive and protracted litigation and is a settlement of claims which were vigorously contested, denied and disputed as to validity and amount. The execution of this Consent Decree is not an admission of liability of any issue dealt with in this Consent Decree. Accordingly, it is the intention of the Plaintiffs and Settling Defendants that, with the exception of this proceeding and any other proceeding contemplated by this Consent Decree, and any suit alleging that either Plaintiff has not properly discharged its duties with respect to the Site, this Consent Decree shall not be admissible in any judicial or administrative proceeding (except that

it may be admissible in a judicial or administrative proceeding between a Settling Defendant and its insurance company concerning the obligation of the insurance company to pay the amounts listed in Appendix 3). It is further agreed and ordered that the payments made herein by the Settling Defendants and Settling Federal Agencies are not and do not constitute penalties, fines or monetary sanctions of any kind.

XXI.

RETENTION OF JURISDICTION

A. This Court shall retain jurisdiction of this Consent Decree for purposes of insuring compliance with its terms and conditions.

B. Plaintiffs and the Settling Defendants each retain the right to enforce the terms of this Consent Decree and take any action authorized by Federal or State law not inconsistent with the terms of this Consent Decree to achieve or maintain compliance with the terms and conditions of this Consent Decree or otherwise.

C. In the event it is demonstrated that the monitoring programs provided for herein are not successful in assuring the prompt discovery of and appropriate response to events of non-compliance with performance goals and standards set forth in Paragraph V and in the RAP, Plaintiffs reserve the right to petition this Court for a schedule of penalties applicable to future significant events of non-compliance.

BY THEIR COUNSEL, THE PARTIES ENTER INTO THIS  
CONSENT DECREE AND SUBMIT IT TO THE COURT, THAT IT MAY BE  
APPROVED AND ENTERED.

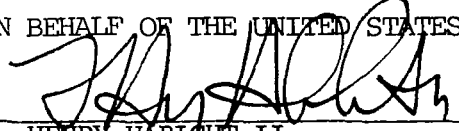
Approved and So Ordered:


  
Chief District Judge

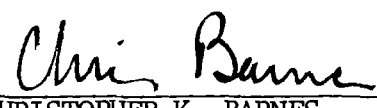


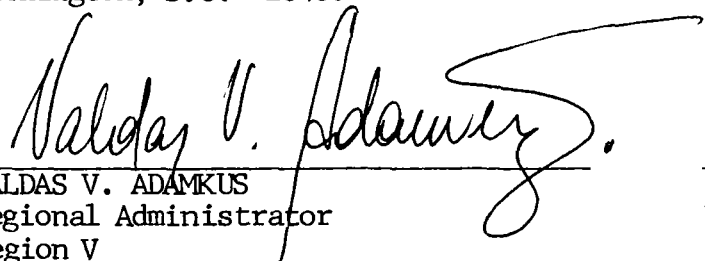
BY THEIR COUNSEL, THE PARTIES ENTER INTO THIS CONSENT DECREE AND SUBMIT IT  
TO THE COURT, THAT IT MAY BE APPROVED AND ENTERED.


ON BEHALF OF THE UNITED STATES:

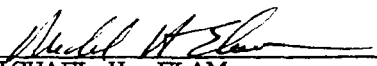
  
F. HENRY HABICHT II  
Assistant Attorney General  
Land and Natural Resources Division  
Department of Justice  
10th and Pennsylvania Avenue, N.W.  
Washington, D.C. 20530


  
COURTNEY M. PRICE  
Assistant Administrator for  
Enforcement and Compliance Monitoring  
Environmental Protection Agency  
401 "M" Street, S.W.  
Washington, D.C. 20460

  
CHRISTOPHER K. BARNES  
United States Attorney  
Southern District of Ohio  
220 U.S. Post Office and Courthouse  
Fifth and Walnut Streets  
Cincinnati, Ohio 45202

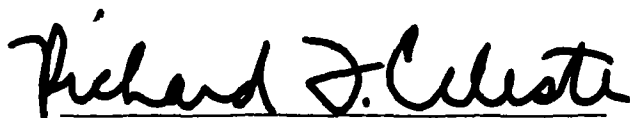
  
VALDAS V. ADAMKUS  
Regional Administrator  
Region V  
Environmental Protection Agency  
230 South Dearborn Street  
Chicago, Illinois 60604

  
BARRY S. SANDALS  
Environmental Enforcement Section  
Land and Natural Resources Division  
Department of Justice  
10th & Pennsylvania Avenue, N.W.  
Washington, D.C. 20530

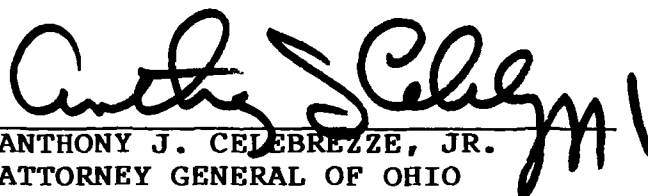
  
MICHAEL H. ELAM  
Assistant Regional Counsel  
Environmental Protection Agency  
Region V  
230 South Dearborn Street  
Chicago, Illinois 60604

  
DEBORAH K. WOITTE  
Office of Enforcement and  
Compliance Monitoring  
Environmental Protection Agency  
401 "M" Street, S.W.  
Washington, D.C. 20460

ON BEHALF OF THE STATE OF OHIO:



RICHARD F. CELESTE  
GOVERNOR, STATE OF OHIO  
State House  
Columbus, Ohio 43215  
(614) 466-3555

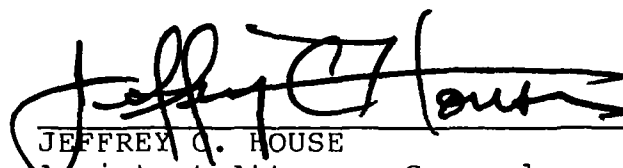


ANTHONY J. CELEBREZZE, JR.  
ATTORNEY GENERAL OF OHIO  
30 East Broad Street  
17th Floor  
Columbus, Ohio 43215  
(614) 466-3376



MICHAEL C. DONOVAN  
Assistant Attorney General  
Environmental Enforcement Section  
30 East Broad Street, 17th Floor  
Columbus, Ohio 43215  
(614) 466-2766

Lead Trial Counsel for State of Ohio



JEFFREY C. HOUSE  
Assistant Attorney General  
Environmental Enforcement Section  
30 East Borad Street, 17th Floor  
Columbus, Ohio 43215  
(614) 466-2766

Associate Trial Counsel for State of Ohio

CONSENT AND AUTHORIZATION

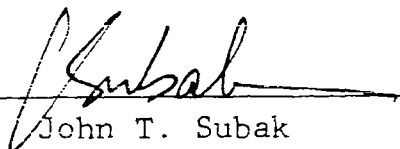
VELSICOL CHEMICAL CORPORATION, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: John W. Rademaker  
Company: Velsicol Chemical Corp.  
Title: Vice President

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

Rohm and Haas Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
John T. Subak  
Company: Rohm and Haas Company  
Title: Group Vice President and  
General Counsel

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

CIBA-GEIGY Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof,  
subject to the Stipulation Order of Dismissal, entered  
by this Court on February 23, 1984.

By: 

Company: CIBA-GEIGY Corporation

Title: V.P., Prod & Tech Services

Dated: April 27, 1985

CONSENT AND AUTHORIZATION

FMC Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Raymond C. Turner  
Company: FMC Corporation  
Title: President

Dated: April 26, 1985

CONSENT AND AUTHORIZATION

Koppers Company, Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Mark I. Massih

Company: Koppers Company, Inc.

Title: Manager, Environmental Programs

Dated: May 16, 1985

CONSENT AND AUTHORIZATION

Allied Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Edward W. Callahan  
Company: Allied Corporation  
Title: Vice President - Health Safety & Environment

NJCW  
RLJ

Dated: April 23, 1985 1985



CONSENT AND AUTHORIZATION

E.I. du Pont de Nemours and Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: J. C. Bisperua


Title: General Director Manufacturing

Dated: May 7, 1985

CONSENT AND AUTHORIZATION

Searle Medical Products U.S.A., Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:

  
Donald L. Seeley

Title: Treasurer, Searle Medical Products U.S.A., Inc.

Dated: April 23, 1985

USA vs. Chem-Dyne Corporation, et al.;  
State of Ohio vs. Rohm & Haas Co., Inc., et al.;  
Case Numbers C-1-82-840 and C-1-82-962; U. S.  
District Court for the Southern District of Ohio,  
Western Division; Judge Rubin

CONSENT AND AUTHORIZATION

UNION CARBIDE CORPORATION, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Carol A. Dudnick  
Company: UNION CARBIDE CORPORATION  
Title: ATTORNEY

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

SWS Silicones Corporation/Stauffer Chemical Company/

Calhio Chemicals, Inc.

, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

*E. C. Galloway*  
E. C. Galloway,

Title:

Executive Vice President - Technical

Dated:

4/22, 1985

CONSENT AND AUTHORIZATION

Anderson Development Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

FOSTER, SWIFT, COLLINS & COEY, P.C.

By:

Charles E. Barbieri  
Charles E. Barbieri (P31793)

Company: Anderson Development Company

Title: Attorney for Company

Dated: June 11, 1985

CONSENT AND AUTHORIZATION

Monsanto Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:  *RGP*  
Robert G. Potter

Company: Monsanto Company

Title: Group Vice President

Dated: April 25, 1985

United States v. Chem-Dyne Corporation, et al, U. S. District Court,  
S. D. Ohio, Western Division Consolidated Civil Action Nos. C-1-82-840  
and C-1-82-962 - Chief Judge Carl B. Rubin.

CONSENT AND AUTHORIZATION

Shell Oil Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

RD Luciani

Title: Vice President Manufacturing & Technical

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

M&T Chemicals Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: William H. Brewster  
William H. Brewster

Company: M&T Chemicals Inc.

Title: Vice President and Secretary

Dated: April 23,, 1985



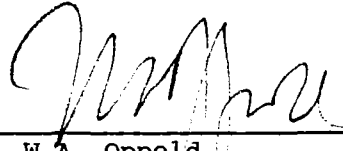
IN THE UNITED STATES DISTRICT COURT  
FOR THE SOUTHERN DISTRICT OF OHIO  
WESTERN DIVISION

UNITED STATES OF AMERICA,	)	
	)	
Plaintiff,	)	
	)	
v.	)	
	)	
CHEM-DYNE CORPORATION, et al.,	)	Consolidated Civil Action
	)	Nos. C-1-82-840 and
Defendants.	)	C-1-82-962
	)	
STATE OF OHIO ex rel.	)	
CELEBREZZE,	)	Chief Judge Carl B. Rubin
	)	
Plaintiff,	)	
	)	
v.	)	
	)	
ROHM AND HAAS COMPANY, et al.,	)	<u>Consent Decree</u>
	)	
Defendants.	)	
	)	

---

CONSENT AND AUTHORIZATION

OLIN CORPORATION, by its duly authorized representative,  
hereby consents to this decree and its filing in the United States  
District Court, and agrees to be bound by the terms and conditions  
thereof.

By:   
W.A. Oppold  
President,  
Industrial Chemicals Group

Dated: April 24, 1985

CONSENT AND AUTHORIZATION

Astro Containers, Incorporated, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Albert Paul

Company: Astro Containers, Incorporated

Title: President

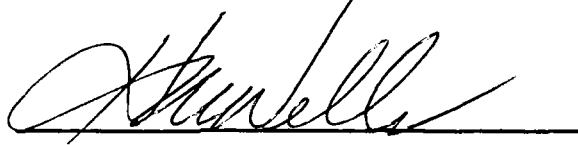
Dated: April 29, 1985

CONSENT AND AUTHORIZATION

THE GOODYEAR TIRE & RUBBER COMPANY, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

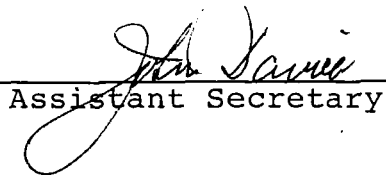
Attest:

By:



Company: THE GOODYEAR TIRE & RUBBER COMPANY

Title: Vice President

  
Assistant Secretary

Dated: May 15, 1985

CONSENT AND AUTHORIZATION

LUDLOW CORPORATION, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Company: LUDLOW CORPORATION

Title: VICE PRESIDENT & GENERAL COUNSEL

Dated: APRIL 26,, 1985

CONSENT AND AUTHORIZATION

United States Steel Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: William W. LaRoche  
Company: United States Steel Corporation  
Title: Group Vice President - Chemicals & President - USS Chemicals

Dated: April 26, 1985

CONSENT AND AUTHORIZATION

Dart Industries Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

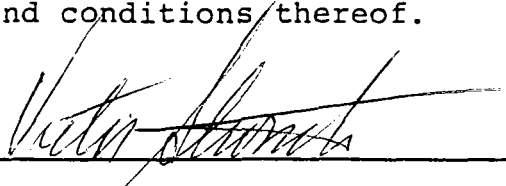
Title: Director, Regulatory Affairs

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

Diamond International Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: \_\_\_\_\_

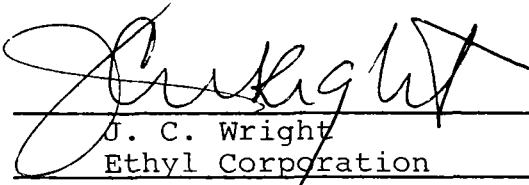


Company: Diamond International Corporation  
Victor Stronski  
Title: Vice President & General Counsel

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

ETHYL CORPORATION, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Company: J. C. Wright  
Ethyl Corporation  
Title: Vice President

Dated: 4/29/, 1985



CONSENT AND AUTHORIZATION

CHEM-DYNE CONSENT DECREE

AMF INCORPORATED, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: John S. Johnson  
John S. Johnson

Title: Vice President & General Counsel

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

GEORGIA-PACIFIC CORPORATION, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Allan J. Nadeau 102  
Allan J. Nadeau

Company: GEORGIA-PACIFIC CORPORATION

Title: Vice President - Northern Pulp & Paper Division

Dated: April 26, 1985

CONSENT AND AUTHORIZATION

Owens Corning Fiberglas, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Company: Owens Corning

Title: Fiberglas

Dated: 5/13, 1985

CONSENT AND AUTHORIZATION

PPG Industries, Inc., by its duly-  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: *Ledie Carothers*

Company: PPG Industries, Inc.

Title: Senior Counsel

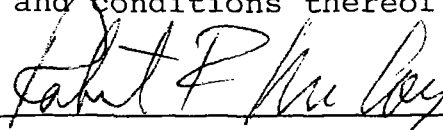
Dated: April 29, 1985

CONSENT AND AUTHORIZATION

Merrell Dow Pharmaceuticals Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

(SS)

By:



Company: MERRELL DOW PHARMACEUTICALS INC.

Title: General Counsel

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Mobay Chemical Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Jack M. Carpman  
Name: Jack M. Carpman  
Title: Vice President

Dated: 4/29, 1985

CONSENT AND AUTHORIZATION

Albany International Corp ., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

ALBANY INTERNATIONAL/CHEMSAMPCO

By: Charles B Buchanan  
Charles B. Buchanan

Title: Vice President - Secretary

Dated: April 26, 1985, 1985

CONSENT AND AUTHORIZATION

The B.F. Goodrich Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: X Bart A. DiLillo

Company: The B.F. Goodrich Company

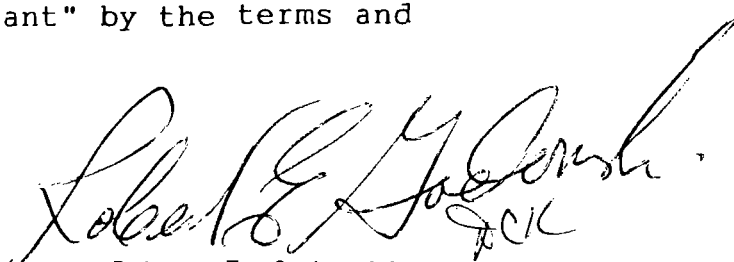
Title: Executive Vice President

Dated: May 6,, 1985



CONSENT AND AUTHORIZATION

Air Products and Chemicals, Inc., by its duly authorized representative, hereby consents to the jurisdiction of this Court and to this Decree and its filing in the United States District Court, and agrees to be bound as a "Settling Defendant" by the terms and conditions thereof.

  
By: Robert E. Gadomski

Company: Air Products and Chemicals, Inc.

Title: Vice President and General Manager,  
Manufacturing Division, Chemicals  
Group

Dated: June 10, 1985

CONSENT AND AUTHORIZATION

The Procter & Gamble Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:

Powell McHenry  
Powell McHenry

Company:

The Procter & Gamble Company

Title:

Senior Vice President-General Counsel

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

OCCIDENTAL CHEMICAL CORPORATION, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Norman Alpert

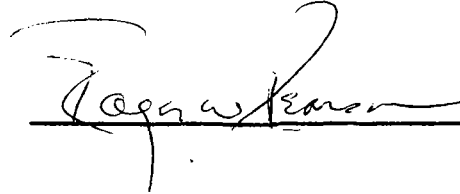
Title: Vice President - Corporate Environmental  
Affairs

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

Crown Zellerbach Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:

  
\_\_\_\_\_

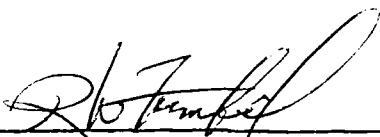
Title:

Senior Attorney  
\_\_\_\_\_

Dated: April 29, \_\_\_\_\_, 1985

CONSENT AND AUTHORIZATION

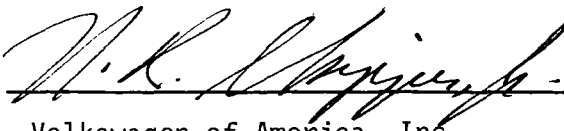
The C. W. Zumbiel Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Company: The C. W. Zumbiel Company  
Title: President

Dated: 5/1, 1985

CONSENT AND AUTHORIZATION

Volkswagen of America, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Company: Volkswagen of America, Inc.  
Title: General Counsel & Secretary

Dated: April 25, 1985

CONSENT AND AUTHORIZATION

Morton Thiokol, Inc.,  
successor to Thiokol Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Company:

Morton Thiokol, Inc.

Title:

Group Vice President - Chemicals

Dated: April 23, 1985

CONSENT AND AUTHORIZATION

Argus Chemical, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Thomas J. Johnson

Company: Argus Chemical

Title: Attorney

Dated: May 28, 1985



CONSENT AND AUTHORIZATION

Chemineer, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: *William A. Meyer*  
Company: Chemineer, Inc.  
Title: Vice President

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Northern Engraving Corporation, by its duly authorized representatives,  
Neco Limited Int.

hereby consent to this Decree and its filing in the United States District  
Court, and agrees to be bound by the terms and conditions thereof.

By:   
C. E. Hughes

Company: Northern Engraving Corporation

Title: Vice President - Administration

By:   
C. D. Gelatt

Company: N. E. Co. Limited Int.

Title: Chairman

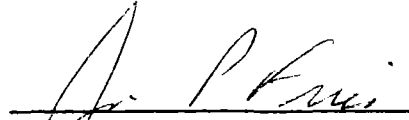
Date: May 3, 1985

Re: Chem-Dyne

CONSENT AND AUTHORIZATION

Fries & Fries Division of Mallinckrodt, Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:

  
\_\_\_\_\_


Company: Fries & Fries Div. of Mallinckrodt, Inc.

Title: President and General Manager

Dated: April 26, 1985

CONSENT AND AUTHORIZATION

Borden, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
R.J. Ventres  
Company: Borden, Inc.  
Title: Executive Vice President

*HR*

Dated: 4/25, 1985

CONSENT AND AUTHORIZATION

NEUTRON PRODUCTS, INC., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Francis John Kreysa  
FRANCIS JOHN KREYSA, ESQ.

Title: CORPORATE SECRETARY

Dated: May 7, 1985

CONSENT AND AUTHORIZATION

Hammermill Paper Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

BY:

Peter G. Klamakis

Company:

Hammermill Paper Co.

Title:

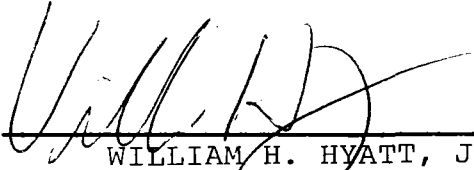
Sr. Vice Pres

Dated: April 26, 1985

CONSENT AND AUTHORIZATION

UNIVERSAL MANUFACTURING CORPORATION, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:



WILLIAM H. HYATT, JR.

Pitney, Hardin, Kipp & Szuch  
Attorneys for Universal Manufacturing  
~~Corporation~~ Corporation

Dated: April 30, , 1985

CONSENT AND AUTHORIZATION

ESSEX GROUP, INC., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

Anthony J. Criss

Company:

ESSEX GROUP, INC.

Title:

VICE PRESIDENT - COUNSEL

Dated: APRIL 29,, 1985



CONSENT AND AUTHORIZATION

Phillips Petroleum Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: CF Cook

Company: PHILLIPS PETROLEUM COMPANY


Title: Vice President

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

CUMMINS ENGINE COMPANY, INC., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:



P. B. Hamilton

Company:

CUMMINS ENGINE COMPANY, INC.

Title:

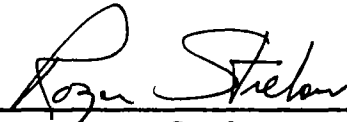
Vice President & General Counsel

Dated: May 1, 1985

CONSENT AND AUTHORIZATION

GENERAL ELECTRIC COMPANY, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:

  
\_\_\_\_\_  
Roger Strelow

Title:

Vice President - Corporate  
Environmental Programs

Dated: April 29, 1985


CONSENT AND AUTHORIZATION

Bofors Nobel, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Company: Bofors Nobel, Inc.Title: PresidentDated: April 30,, 1985

CONSENT AND AUTHORIZATION

American Can Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Company: Timothy G. Rogers  
American Can Company  
Title: Senior Counsel, Enviromental  
and Energy Law.

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Sangamo Weston, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: \_\_\_\_\_



Company: \_\_\_\_\_

Sangamo Weston, Inc.

Title: \_\_\_\_\_

Secretary

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

THE HOLLISTON MILLS, INC., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

Neil J. Carlson

Company:

THE HOLLISTON MILLS, INC.

Title:

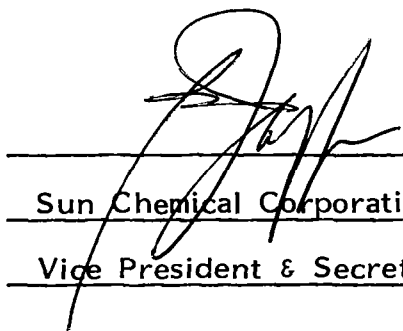
Assistant Treasurer

Dated:

April 29, 1985

CONSENT AND AUTHORIZATION

SUN CHEMICAL CORPORATION, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Company: Sun Chemical Corporation  
Title: Vice President & Secretary

Dated: April 22,, 1985



CONSENT AND AUTHORIZATION

Springfield Gravure Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: J. B. Bergelson

Title: Vice President & Secretary

Dated: April 26, 1985

CONSENT AND AUTHORIZATION

The Richardson Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Thomas J. Johnson  
Company: The Richardson Company  
Title: Attorney

Dated: May 28, 1985

CONSENT AND AUTHORIZATION

ALUMINUM COMPANY OF AMERICA, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Russell W. Porter Jr.

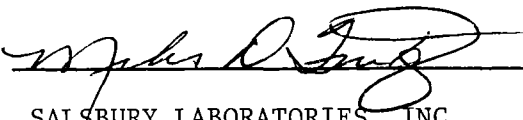
Company: ALUMINUM COMPANY OF AMERICA

Title: MANAGING GENERAL ATTORNEY

Dated: April 25, 1985

CONSENT AND AUTHORIZATION

SALSBURY LABORATORIES, INC., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Company: SALSBURY LABORATORIES, INC.  
Title: President

Dated: May 3, 1985

CONSENT AND AUTHORIZATION

The Mearl Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Company: Dominick A. Pinciario

The Mearl Corporation

Title: President

Dated: April 26, 1985

CONSENT AND AUTHORIZATION

Compo Industries, Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: 

Company: Compo Industries, Inc.

Title: Executive Vice President &  
Chief Financial Officer

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

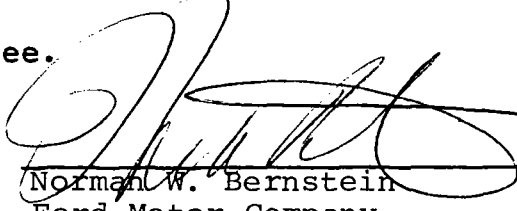
American Roller Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Paul S. Snapp  
Company: American Roller Company  
Title: Treasurer & Assistant Secretary

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Ford Motor Company, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By:   
Company: Norman W. Bernstein  
Ford Motor Company  
Title: Associate Counsel

Dated: April 26, 1985

ELECTION

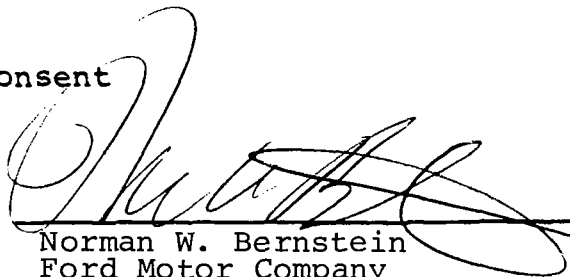
If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

☒

Consent

☐

Do Not Consent

By:   
Company: Norman W. Bernstein  
Ford Motor Company  
Title: Associate Counsel



CONSENT AND AUTHORIZATION

Appleton Papers Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:

Edwin J. Bush, Jr.

Company:

Appleton Papers Inc.

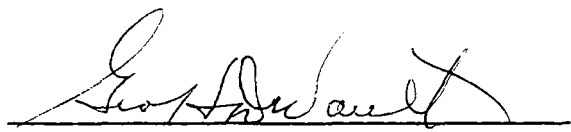
Title:

Sr. Legal Counsel/Assistant Secretary

Dated: May 1, 1985

CONSENT AND AUTHORIZATION


Egyptian Lacquer Manufacturing Co.; by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:   
Company: Egyptian Lacquer Manufacturing Company  
Title: President

Dated: May 7, 1985

CONSENT AND AUTHORIZATION

AMERICAN GREETINGS CORPORATION by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:   
Company: AMERICAN GREETINGS CORPORATION  
Title: General Counsel and Secretary

Dated: April 26, 1985

CONSENT AND AUTHORIZATION

WHIRLPOOL CORPORATION, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

WHIRLPOOL CORPORATION

By: August Brogno  
August Brogno  
Vice President,  
Major Appliance Group

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

Travenol Laboratories, Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

Name : G. M. Abbey

By: 

Company: Travenol Laboratories, Inc.

Title: Senior Vice President - Secretary  
and General Counsel

Dated: April 24, 1985

BUY-OUT ELECTION

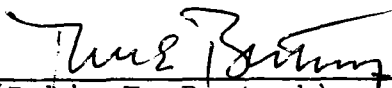
Structurlite Plastics Corp., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By: Robert E. Griffith  
Company: Structurlite Plastics Corp.  
Title: President

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

FORT WAYNE POOLS, INC., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
(Robin E. Bertsch)  
Company: Fort Wayne Pools, Inc.  
Title: Vice-President

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

Lord Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: *M. Kerosky*

Company: Lord Corporation

Title: Vice President

Dated: April 23, 1985



CONSENT AND AUTHORIZATION

HERCULES INCORPORATED, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Edward Wolper  
Edward Wolper  
Company: Hercules Incorporated  
Title: Counsel

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Anvil Products, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Company: Anvil Products, Inc.

Title: President

Dated: April 26, 1985

CONSENT AND AUTHORIZATION

LIBERTY SOLVENTS & CHEMICALS CO., INC., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Arthur W. Hargate, Jr.

Company: LIBERTY SOLVENTS & CHEMICALS CO., INC.

Title: SECRETARY / TREASURER  
(ARTHUR W. HARGATE, JR.)

Dated: APRIL 30, 1985

CONSENT AND AUTHORIZATION

CHAMPION INTERNATIONAL CORPORATION, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Benjamin S. Bilus  
BENJAMIN S. BILUS

Title: SENIOR ASSOCIATE COUNSEL

Dated: April 19, 1985

CONSENT AND AUTHORIZATION

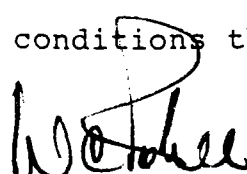
Sprague Electric Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Robert E. Smith  
Company: Sprague Electric Company  
Title: Vice President

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Gulf Oil Products Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

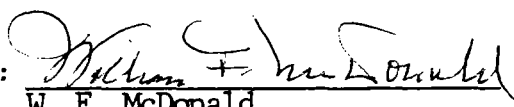
By:   
Company: W. C. Roher  
Gulf Oil Products Company  
Title: Senior Vice President



Dated: April 29, 1985

CONSENT AND AUTHORIZATION

National Distillers and Chemical Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:   
W. F. McDonald  
Vice President

Company: National Distillers and  
Chemical Corporation including  
the following divisions thereof:  
National Distillers Products Co.,  
U.S. Industrial Chemicals Co., and  
Emery Chemicals (formerly Emery  
Industries)

Date: April 30, 1985

CONSENT AND AUTHORIZATION

Facet Enterprises, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Title: Vice President

Dated: June 4, 1985



CONSENT AND AUTHORIZATION

Diamond Shamrock Chemicals Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: 

C. E. Stewart

Company: Diamond Shamrock Chemicals Company

Title: President

Dated: April 30, 1985

BUY-OUT ELECTION

Diamond Shamrock Chemicals Company , by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By:



C. E. Stewart

Company:

Diamond Shamrock Chemicals Company

Title:

President

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Witco Chemical Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Thomas J. Johns

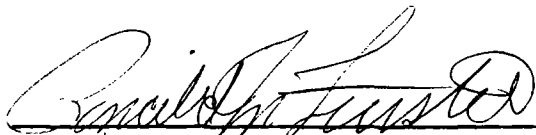
Company: Witco Chemical Corporation

Title: Attorney

Dated: May 28, 1985

CONSENT AND AUTHORIZATION

Chemical Solvents, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Company: CHEMICAL SOLVENTS INC  
Title: VP

Dated: April 24, 1985

CONSENT AND AUTHORIZATION

General Motors Corporation, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: Leonard M. [Signature]  
Company: General Motors Corporation  
Title: Attorney

Dated: April 29, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.



Consent



Do Not Consent

By: Leonard M. [Signature]  
Company: General Motors Corporation  
Title: Attorney

CONSENT AND AUTHORIZATION

DiversiTech General, Inc., a wholly owned subsidiary of GenCorp Inc.,  
~~formerly The General Tire & Rubber Company~~, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

DiversiTech General, Inc.

By:

Harry B. Thompson  
Harry B. Thompson

Title: Vice President Manufacturing Services

Dated: May, 1985

ASSET TRANSFER

Pursuant to Section 351 of the Internal Revenue Code of 1954, as amended, GenCorp, Inc. (formerly The General Tire & Rubber Company), an Ohio corporation, having its principal office in Akron, Ohio 44329 ("Transferor"), for valuable consideration, the receipt and sufficiency of which are hereby acknowledged, hereby transfers, assigns and conveys unto DiversiTech General, Inc. (Transferee), its successors and assigns as of the close of business on November 30, 1984 all of the right, title and interest of Transferor in and to the following assets, rights and properties, real and personal, tangible and intangible as recorded on the books and records of the DiversiTech Division immediately prior to closing as of November 30, 1984.

All real property, together with any improvements and appurtenances thereto, and all fixed assets, furniture, fixtures, machinery, equipment, licenses and other tangible and intangible property, wherever located, used or usable in the operation of the business conducted by the DiversiTech Division of the Transferor and owned by Transferor. Said real property will be conveyed to Transferee by Deeds as of the effective date hereof.

Transferee hereby accepts said assets and, to the extent assignable, assumes and agrees to discharge and perform the liabilities and obligations of Transferor's said business as recorded on the books and records of the DiversiTech Division immediately prior to closing as of November 30, 1984.

Transferor hereby covenants and agrees that it will from time to time, if requested by Transferee, its successors or assigns execute and deliver to Transferee, its successors or assigns such further instruments as may be proper or necessary for transferring and assigning all of the property hereby conveyed.

IN WITNESS WHEREOF, Transferor and Transferee have caused this instrument to be executed by their duly authorized officers this 30<sup>th</sup> day of Nov., 1984.

GenCorp Inc.

By [Signature]

Vice President

DiversiTech General, Inc.

By [Signature]

Treasurer

KCB

CONSENT AND AUTHORIZATION

NCR CORPORATION, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: C. Mark King  
Company: NCR CORPORATION  
Title: Attorney

Dated: April 30, 1985



BUY-OUT ELECTION

NCR CORPORATION, by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By: C. M. & K. K. K. K. K.  
Company: NCR CORPORATION  
Title: Attorney

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

ESSEF Corporation \*, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

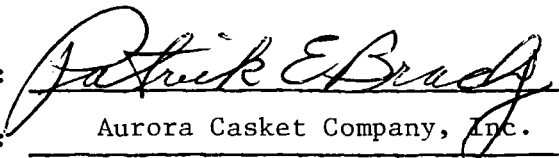
Title: Secretary

Dated: April 30,, 1985

\* Defendant named as Structural Fibers, Inc.  
Structural Fibers, Inc. underwent a name change in 1981,  
to ESSEF Industries, Inc. In 1985, the name was changed  
to ESSEF Corporation.

CONSENT AND AUTHORIZATION

Aurora Casket Company, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Company: Aurora Casket Company, Inc.  
Title: Executive Vice President

Dated: April 25, 1985

CONSENT AND AUTHORIZATION

R.R. Donnelley & Sons Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: David C. Hart

Company: R.R. Donnelley & Sons Co.

Title: General Counsel

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

Abbott Laboratories, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: CC. Jones

Title: V.P. Corporate Engineering

Dated: 4/26, 1985

CONSENT AND AUTHORIZATION

American Standard Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Israel A. Stein *cas*  
Israel A. Stein


Title: Assistant Secretary  
American Standard Inc.

Dated: May 30, 1985

The foregoing Consent and Authorization replaces and entirely supersedes the Consent and Authorization executed on May 1, 1985 by The Mosler Safe Company, a wholly-owned subsidiary of American Standard Inc.

CONSENT AND AUTHORIZATION

H.S. CROCKER COMPANY, INC., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:   
Company: H.S. CROCKER COMPANY INC.  
Title: Exec V.P.

Dated: May 1, 1985

CONSENT AND AUTHORIZATION

McDonnell Douglas Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: \_\_\_\_\_

~~Company:~~

John T. Sant

Title: \_\_\_\_\_

Corporate Vice President  
and General Counsel

Dated: April 25, 1985



CONSENT AND AUTHORIZATION

Rogers Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.


By: A. David Heilemann  
A. David Heilemann

Title: Risk Manager/Sr. Financial Analyst

Dated: May 7, 1985

CONSENT AND AUTHORIZATION

THE TAPPAN COMPANY, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Robert R. Teall  
Company: The Tappan Company  
Title: Vice President

Dated: May 8, 1985

CONSENT AND AUTHORIZATION

R. T. VANDERBILT COMPANY, INC., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

G. L. Fiederlein

Title:


G.L. FIEDERLEIN EXECUTIVE VICE PRESIDENT

Dated:

April 29, 1985

CONSENT AND AUTHORIZATION

ATLANTIC RICHFIELD COMPANY, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
SAMUEL A. PETERS

Company: ATLANTIC RICHFIELD COMPANY

Title: SENIOR COUNSEL

Dated: MAY 3, 1985

BUY-OUT ELECTION

ATLANTIC RICHFIELD COMPANY, by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By:   
SAMUEL A. PETERS

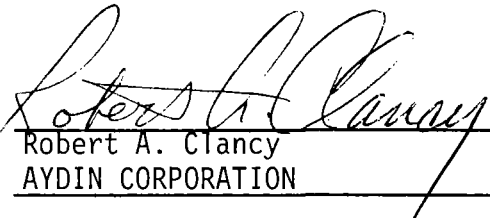
Company: ATLANTIC RICHFIELD COMPANY

Title: SENIOR COUNSEL

Dated: MAY 3, 1985

CONSENT AND AUTHORIZATION

Aydin Corporation d/b/a/ Aydin Raytor, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:   
Robert A. Clancy  
Company: AYDIN CORPORATION  
Title: Secretary & Corporate Counsel

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Tenneco Resins, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:



H. R. Bowers

Title:

President

Dated:

April 26, 1985

CONSENT AND AUTHORIZATION

Tenneco Resins, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:



H. R. Bowers

Title:

President

Dated:

April 26, 1985



CONSENT AND AUTHORIZATION

CLARK OIL COMPANY, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Gregory G. Boen

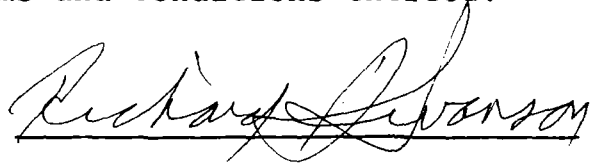
Title: Attorney for Clark Oil Company

Dated: 4-26-85, 1985

CONSENT AND AUTHORIZATION

ITT Telecom Products Corporation\*, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:



Company: ITT Telecom Products Corporation\*

Title: Assistant Secretary and  
Associate General Counsel

Dated: April 29, 1985

\*and its predecessor in interest, ITT North Electric Company

BUY-OUT ELECTION

ITT Telecom Products Corporation,\*by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By:

Richard L. Swanson

Company: ITT Telecom Products Corporation\*

Title: Assistant Secretary and  
Associate General Counsel

Dated: April 29, 1985

\*and its predecessor in interest, ITT North Electric Company

CONSENT AND AUTHORIZATION

Halocarbon Products Corp., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

Gregory Macbeth

Title:

Attorney for Halocarbon  
Products Corp.

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Vulcan Materials Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:

Charles E. Stinson

Company:

Vulcan Materials Company

Title:

President, Chemicals Division

Dated: May 7, 1985

CONSENT AND AUTHORIZATION

RHONE-POULENC INC., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: John M. Iatesta  
John M. Iatesta

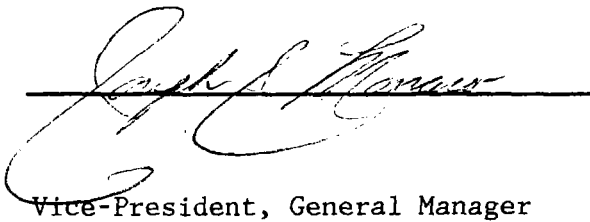
Title: Corporate Counsel

Dated: April 25, 1985

CONSENT AND AUTHORIZATION

DOVER CHEMICAL CORPORATION, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: \_\_\_\_\_



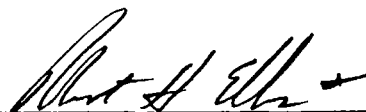
Title: Vice-President, General Manager

Dated: April 29, 1985, 1985

CONSENT AND AUTHORIZATION

Syntex Chemicals, Inc. (formerly  
Arapahoe Chemicals, Inc.) \_\_\_\_\_, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: \_\_\_\_\_



Title: \_\_\_\_\_

PRESIDENT

Dated: 10 MAY, 1985



CONSENT AND AUTHORIZATION

White Pigeon Paper Company, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: James V. LaMarre  
James V. LaMarre

Company: White Pigeon Paper Company

Title: President

Dated: April 26,, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.



Consent



Do Not Consent

By: James V. LaMarre  
James V. LaMarre

Company: White Pigeon Paper Company

Title: President

CONSENT AND AUTHORIZATION

Athens Products Company, Division of White Consolidated Industries, Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: James L. Calhoun  
James L. Calhoun

Title: Vice President  
White Consolidated Industries, Inc.

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

Cytemp Specialty Steel Division of  
Cyclops Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: James F. Will  
James F. Will  
Company: Cyclops Corporation  
Executive Vice President and  
Title: President-Industrial Group

Dated: May 30, 1985

CONSENT AND AUTHORIZATION

Loctite Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Company: Loctite Corporation

Title: Chief Executive Officer

Dated: May 1, 1985

CONSENT AND AUTHORIZATION

Xomox Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

Sheila McC. Harvey  
Sheila McC. Harvey\*

Company: Shaw, Pittman, Potts & Trowbridge

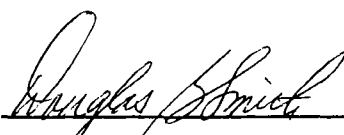
Title: Outside Counsel

Dated: May 1, 1985

\*authorized April 30, 1985 by  
Thomas D. Hyde, Esquire,  
Assistant General Counsel  
Emerson Electric Company  
(Xomox is a subsidiary of  
Emerson Electric Company)

CONSENT AND AUTHORIZATION

The Standard Oil Company (Ohio), by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:   
Company: The Standard Oil Company (Ohio)  
Title: Manager - Lubricants Division

Dated: May 3, 1985, 1985

CONSENT AND AUTHORIZATION

Anaquest, a Division of BOC Inc.  
(formerly Airco, Inc.), by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Richard H. Leazer  
Richard H. Leazer  
Company: Anaquest, a Division of BOC Inc.  
Title: President

Dated: April 29, 1985

BUY-OUT ELECTION

Anaquest, a Division of BOC Inc.  
(formerly Airco, Inc.) \_\_\_\_\_, by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By: Richard H. Leazer  
Richard H. Leazer  
Company: Anaquest, a Division of BOC Inc.  
Title: President

Dated: April 29, 1985



CONSENT AND AUTHORIZATION

MICRO-DEVICES, a division of Therm-O-Disc, Inc., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Sheila McC. Harvey  
Company: Shaw, Pittman, Potts & Trowbridge  
Title: Outside Counsel

Dated: May 1, 1985

\*authorized April 30, 1985 by  
Thomas D. Hyde, Esquire  
Assistant General Counsel  
Emerson Electric Company  
(Therm-O-Disc, Inc. is a  
subsidiary of Emerson Electric  
Company)

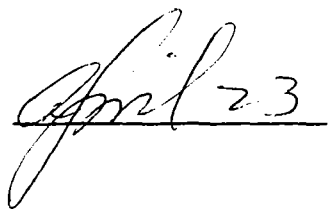
CONSENT AND AUTHORIZATION

International Paper Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Company: International Paper Company

Title: Senior Vice President - Technology

Dated: , 1985

CONSENT AND AUTHORIZATION

The Dow Chemical Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: John E. Hicks  
Company: The Dow Chemical Company  
Title: Division Counsel  
Western Division

Dated: April 25, 1985

CONSENT AND AUTHORIZATION

Clipay Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: Edward C. Zepf  
Company: Clipay Corporation  
Title: Senior Vice President, Finance

Dated: April 30, 1985

BUY-OUT ELECTION

BROWNING-FERRIS INDUSTRIES  
CHEMICAL SERVICES, INC.

\_\_\_\_\_, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By:

Richard H. Lind

Company:

BROWNING-FERRIS INDUSTRIES  
CHEMICAL SERVICES, INC.

Title:

VICE PRESIDENT

Dated: APRIL 30, 1985

CONSENT AND AUTHORIZATION

Bishopric Inc., its subsidiaries, and <sup>affiliates</sup>, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: 

Company: Bishopric, Inc.

Title: Vice President

Dated: April 30, 1985

CONSENT AUTHORIZATION  
and  
BUY-OUT ELECTION

Exxon Research and Engineering Company, by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation. If there is sufficient participation, Exxon Research and Engineering Company consents to the Decree and its filing in the United States District Court and agrees to be bound to the terms and conditions applicable to the Premium Settling Defendants. If there is not sufficient participation, Exxon Research and Engineering Company declines to participate in the Consent Decree.

By: Frank B. Sprow  
Frank B. Sprow


Company: Exxon Research and Engineering Company

Title: Vice President

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

SCM Corporation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:   
Company: John S. Dumble  
SCM Corporation  
Title: Vice President

Dated: April 30, 1985

IN WITNESS WHEREOF,  
I have hereunto set my hand and seal of the  
Department of Justice, at Washington, D.C., this 30th day of April, 1985.

  
ATTORNEY



CONSENT AND AUTHORIZATION

                    Diemakers, Inc.                    , by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: George T. Spalding

Company: Diemakers, Inc.

Title: President

Dated: May 2, 1985

APPROVE:

David L. Zerrer  
DAVID L. ZERRER  
General Counsel  
Diemakers, Inc.

CONSENT AND AUTHORIZATION

Diebold, Incorporated  
818 Mulberry Road, S.E.  
Canton, Ohio 44711

\_\_\_\_\_, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

R. L. Rhodes

Company:

Diebold, Incorporated  
Manager of Facilities Planning

Title:

and Environmental Control

Dated: April 25, 1985

BUY-OUT ELECTION

Diebold, Incorporated  
818 Mulberry Road, S.E.  
Canton, Ohio 44711

\_\_\_\_\_, by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By: A. L. Rhodes

Company: Diebold, Incorporated  
          Manager of Facilities Planning  
Title:   and Environmental Control

Dated: April 25, 1985

CONSENT AND AUTHORIZATION

The Kroger Co., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: George A. Leonard  
Company: The Kroger Co.  
Title: Vice President, General Counsel and Secretary



Dated: April 29, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

☐

Consent

☐

Do Not Consent

By: \_\_\_\_\_  
Company: George A. Leonard  
The Kroger Co.  
Title: Vice President, General Counsel and Secretary

CONSENT AND AUTHORIZATION

          MK Laboratories, Inc.          , by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:


William J. O'Shaughnessy

Title: Sr. Vice President/Treasurer

Dated: May 24, 1985

CONSENT AND AUTHORIZATION

Republic Corporation, predecessor in interest  
to Consolidated Molded Products, Inc.                     , by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
Company: REPUBLIC CORPORATION, predecessor in interest  
to CONSOLIDATED MOLDED, PRODUCTS, INC.  
Title: Vice President and General Counsel

Dated: May 14, 1985

CONSENT AND AUTHORIZATION

Glyco Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Thomas B. Davis  
Company: Glyco Inc.  
Title: President

Dated: April 23, 1985

BUY-OUT ELECTION

Glyco Inc., by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By: Thomas B. Davis

Company: Glyco Inc.

Title: President

Dated: April 23, 1985



CONSENT AND AUTHORIZATION

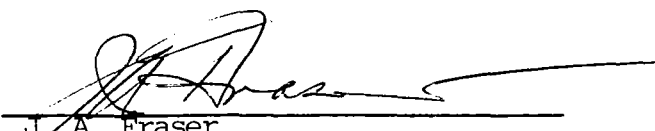
National Service Industries, Inc.  
d/b/a Atlantic Envelope Company, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: Erwin Zaban  
Company: National Service Industries, Inc.  
d/b/a Atlantic Envelope Company  
Title: Chairman of the Board

Dated: April 22, 1985

CONSENT AND AUTHORIZATION

RALSTON PURINA COMPANY, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:   
J. A. Fraser  
Company: RALSTON PURINA COMPANY  
Title: Assistant Secretary

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

THE HAMILTON TOOL COMPANY, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: STRAUSS, TROY & RUEHLMANN CO., L.P.A.

Title:

Eugene F. Ruehl  
Counsel

Dated: 5-1-, 1985

CONSENT AND AUTHORIZATION

Owens-Illinois, Inc., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: H. G. Bruss  
Company: H. G. Bruss  
Owens-Illinois, Inc.  
Title: Assistant Secretary

Dated: April 29, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

☒

Consent

☐

Do Not Consent

By: H. G. Bruss  
Company: H. G. Bruss Owens-Illinois, Inc.  
Title: Assistant Secretary

CONSENT AND AUTHORIZATION

AMERICAN SIGN CO., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: [Signature]  
Company: AMERICAN SIGN CO.  
Title: VICE-PRESIDENT, FINANCE

Dated: 5-1, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

☒ Consent

☐ Do Not Consent

By: [Signature]  
Company: AMERICAN SIGN CO.  
Title: VICE-PRESIDENT, FINANCE

CONSENT AND AUTHORIZATION

A. E. Staley Manufacturing Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:

John F. Homan  
John F. Homan

Company: A. E. Staley Manufacturing Company

Title: Vice President Industrial Operations

Dated: April 29, 1985

CONSENT AND AUTHORIZATION

National Starch and Chemical Corporation, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: Rhonda M. Gussard

Company: National Starch and Chemical Corporation

Title: Associate Counsel

Dated: April 29, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.



Consent



Do Not Consent

By: Rhonda M. Gussard

Company: National Starch and Chemical Corporation

Title: Associate Counsel

CONSENT AND AUTHORIZATION

ENERGY CONVERSION DEVICES, INC., by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: James J. Webb  
Company: ENERGY CONVERSION DEVICES, INC.  
Title: Executive Vice President

Dated: April 30, 1985



CONSENT AND AUTHORIZATION

ALEXANDER-PATTERSON ASSOCIATES, INC., SUCCESSOR TO R. + G. SERVICES, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: Thomas A. Alexander  
THOMAS A. ALEXANDER  
Company: ALEXANDER-PATTERSON ASSOCIATES, INC.,  
SUCCESSOR TO R. + G. SERVICES  
Title: PRESIDENT

Dated: 4/30, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.



Consent



Do Not Consent

By: Thomas A. Alexander  
THOMAS A. ALEXANDER  
Company: ALEXANDER-PATTERSON ASSOCIATES, INC.,  
SUCCESSOR TO R. + G. SERVICES  
Title: PRESIDENT

CONSENT AND AUTHORIZATION

United Parcel Service, Inc., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: J. Robert Peterson  
Company: United Parcel Service, Inc.  
Title: Vice President

Dated: April 25, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

☒

Consent

☐

Do Not Consent

By: J. Robert Peterson  
Company: United Parcel Service, Inc.  
Title: Vice President

CONSENT AND AUTHORIZATION

DUKE UNIVERSITY, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: Daniel B. Adcock

Company: DUKE UNIVERSITY

Title: ASSOCIATE UNIVERSITY COUNSEL

Dated: APRIL 30, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.



Consent



Do Not Consent

By: Daniel B. Adcock

Company: DUKE UNIVERSITY

Title: ASSOCIATE UNIVERSITY COUNSEL

CONSENT AND AUTHORIZATION

Curtin Matheson Scientific, Inc., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: *F. I. Hawley*

Company: Curtin Matheson Scientific, Inc.

Title: Vice President, Finance & Planning

Dated: May 3, 1985, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.



Consent



Do Not Consent


By: *F. I. Hawley*

Company: Curtin Matheson Scientific, Inc.

Title: Vice President, Finance & Planning

CONSENT AND AUTHORIZATION

NAPP Systems (USA) Inc., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By:   
600 Davenport Bank Bldg., Davenport, Iowa 52801  
Company: NAPP Systems (USA) Inc.  
Title: Attorney for NAPP Systems (USA) Inc.

Dated: April 26, 1985

ELECTION

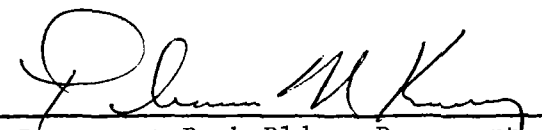
If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.



Consent



Do Not Consent

By:   
600 Davenport Bank Bldg., Davenport, Iowa 52801  
Company: NAPP Systems (USA) Inc.  
Title: Attorney for NAPP Systems (USA) Inc.

Of Counsel:

Lane & Waterman  
600 Davenport Bank Bldg.  
Davenport, IA 52801  
(319) 324-3246

CONSENT AND AUTHORIZATION

CBS INC., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: Charles T. Bates  
Company: CBS INC.  
Title: CHARLES T. BATES, SECRETARY AND ASSOCIATE GENERAL COUNSEL

Dated: APRIL 29, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree..

☒ Consent

☐ Do Not Consent

By: Charles T. Bates  
Company: CBS INC.  
Title: CHARLES T. BATES, SECRETARY AND ASSOCIATE GENERAL COUNSEL

CONSENT AND AUTHORIZATION

Keene Corporation, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: *Donald A. Miley*  
Company: Keene Corporation  
Title: Vice President and General Counsel

Dated: April 26,, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.



Consent



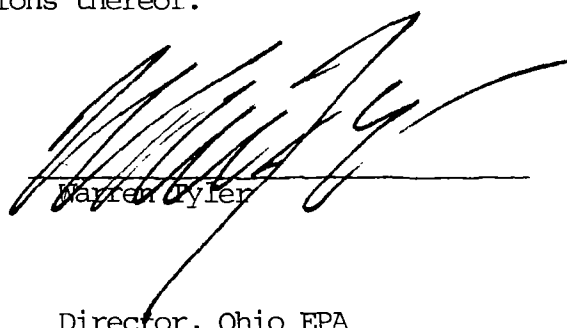
Do Not Consent

By: *Donald A. Miley*  
Company: Keene Corporation  
Title: Vice President and General Counsel

CONSENT AND AUTHORIZATION

Ohio EPA, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

  
Warren Tyler

Title: Director, Ohio EPA

Dated: June 11, 1985



CONSENT AND AUTHORIZATION

ACME UNITED CORPORATION, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: A. T. Harrison  
Andrew T. Harrison  
Company: Acme United Corporation  
Title: Senior Vice President  
Regulatory Affairs & Quality Assurance

Dated: May 7, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

☐ Consent

☒ Do Not Consent

By: A. T. Harrison  
Andrew T. Harrison  
Company: Acme United Corporation  
Title: Senior Vice President  
Regulatory Affairs & Quality Assurance

CONSENT AND AUTHORIZATION

Hukill Chemical Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Title: Vice President, Finance

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Industrial Electronic Rubber Co., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: John W. Clements, Jr. for IER  
Company: Industrial Electronic Rubber Co.  
Title: V. P. Mfg.

Dated: 4/25, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.



Consent



Do Not Consent

By: John W. Clements, Jr. for IER  
Company: Industrial Electronic Rubber Co.  
Title: V. P. Mfg.

USE THIS FORM IF YOU WANT THE 2.5 X BUY OUT

CONSENT AND AUTHORIZATION

Ashland Chemical Company,  
Division of Ashland Oil, Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

G. Benjamin Cowgill

Company:

Ashland Chemical Company, Division of

~~Title:~~

Ashland Oil, Inc.

Title: Litigation Attorney

Dated: 4/30/85, 1985

CONSENT AND AUTHORIZATION

REXARC, INC., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: \_\_\_\_\_

Title: \_\_\_\_\_

Dated: 4/29/85, 1985

CONSENT AND AUTHORIZATION

The Christ Hospital, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: \_\_\_\_\_

*John M. Cook*

Title: \_\_\_\_\_

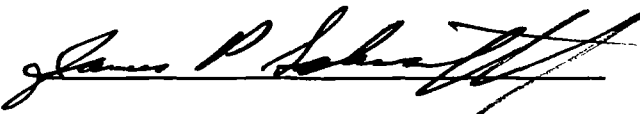
President

Dated: April 30, 1985

FILED  
APR 30 1985  
U.S. DISTRICT COURT  
NORTH DAKOTA  
GRAND FORK

CONSENT AND AUTHORIZATION

Charles F. Kettering Foundation, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: 

Title: Vice President and Treasurer

Dated: April 30,, 1985

CONSENT AND AUTHORIZATION

CUSTOM COATED (DAYCO), by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By: 

Title: VICE PRESIDENT, GENERAL COUNSEL & SECRETARY

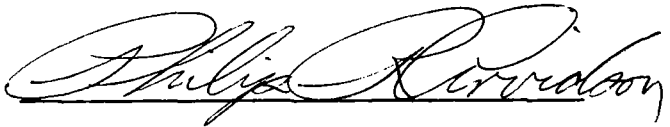
Dated: APRIL 23, 1985



CONSENT AND AUTHORIZATION

INMONT CORPORATION, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:



Company:

INMONT CORPORATION

Title:

VICE PRESIDENT

Dated: APRIL 25,, 1985

BUY-OUT ELECTION

INMONT CORPORATION, by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By:



Company: INMONT CORPORATION

Title: VICE PRESIDENT

Dated: APRIL 25, 1985

CONSENT AND AUTHORIZATION

Southwestern Portland Cement Company, by its duly authorized representative, hereby consents to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By:

Frank R. McGee

Company:

Southwestern Portland Cement Company

Title:

Vice President and Secretary

Dated: April 25, 1985

BUY-OUT ELECTION

Southwestern Portland Cement Company, by its duly authorized representative, hereby agrees to pay the amounts shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree. It is understood that this "buy-out" will not become effective if there is not sufficient participation, in which event the above party agrees to pay the lesser amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

By: Frank R. McGee

Company: Southwestern Portland Cement Company

Title: Vice President and Secretary

Dated: April 25, 1985

CONSENT AND AUTHORIZATION

VWR Scientific Inc., by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:

  
Steve W. Berman

Title: Attorney for VWR Scientific Inc.

Dated: April 30, 1985

CONSENT AND AUTHORIZATION

Scholle Corporation, by its duly  
authorized representative, hereby consents to this Decree  
and its filing in the United States District Court, and  
agrees to be bound by the terms and conditions thereof.

By:



Company:

Scholle Corporation

Title:

President

Dated: April 24, 1985

CONSENT AND AUTHORIZATION

FRANK ENTERPRISES, Inc., by its duly authorized representative, hereby consents to the jurisdiction of this Court and to this Decree and its filing in the United States District Court, and agrees to be bound by the terms and conditions thereof.

By: J. P. Stokely

Company: FRANK ENTERPRISES, Inc.

Title: PRESIDENT

Dated: 09-16-85, 1985

CONSENT AND AUTHORIZATION

\_\_\_\_\_ Armco Inc. \_\_\_\_\_, by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: *J. Maxwell*  
Company: Armco Inc.  
Title: Corporate Vice President  
Research & Technology

Dated: April 30, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

☒ Consent

☐ Do Not Consent

By: *J. Maxwell*  
Company: Armco Inc.  
Title: Corporate Vice President  
Research & Technology



CONSENT AND AUTHORIZATION

Armco Inc., by its duly authorized representative, hereby agrees to pay the amount shown in column 9 of the Chem-Dyne allocation under the terms of Paragraph XIV of the Consent Decree.

By: *J. H. Laxton*  
Company: Armco Inc.  
Title: Corporate Vice President  
Research & Technology

Dated: April 30, 1985

ELECTION

If the Paragraph XIV "buy out" does not become effective because of lack of sufficient participation, this party consents to pay the amount in column 8 of the allocation and to be bound by Paragraph XIII and the other provisions of the Consent Decree.

☒ Consent

☐ Do Not Consent

By: *J. H. Laxton*  
Company: Armco Inc.  
Title: Corporate Vice President  
Research & Technology

**REMEDIAL ACTION PLAN**  
**Chem-Dyne Site**  
**Hamilton, Ohio**  
**May 1985**

prepared by: **S.S. PAPADOPULOS & ASSOCIATES INC.**  
**ERM - SOUTHEAST, INC.**  
**CONESTOGA-ROVERS & ASSOCIATES LIMITED**

## TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 REMEDIAL ACTION PLAN	2
2.1 SCOPE	2
2.2 GROUNDWATER	4
2.3 SURFACE WATERS	5
2.4 SITE SOILS AND ON-SITE STRUCTURES	7
2.5 HEALTH, SAFETY AND PERSONNEL HYGIENE	8
3.0 GROUNDWATER	10
3.1 INTRODUCTION	10
3.2 PROBLEM DEFINITION	11
3.3 REMEDIAL ACTION	13
3.3.1 Extraction/Injection Well System	14
3.3.2 Treatment Facility	17
3.3.3 Groundwater Monitoring Program	18
3.3.4 Contingency Measures	33
4.0 GROUNDWATER TREATMENT	35
4.1 INTRODUCTION	35
4.2 RECOMMENDED PLAN	36
4.3 REMEDIAL ACTION	37
4.4 SAFETY FACTORS/CONTINGENCIES	41
4.5 MONITORING	45

TABLE OF CONTENTS (cont'd)

	<u>Page</u>
5.0 UNSATURATED SOIL REGIME	48
5.1 GENERAL	48
5.2 REMEDIAL ACTION	49
5.3 DESCRIPTION OF COMPOSITE CAP PARAMETERS	51
5.4 MAINTENANCE	53
5.5 MONITORING	54
5.5.1 Gas Vents	54
5.5.2 Cap Integrity	55
6.0 EXCAVATION AND DISPOSAL OF SITE SOILS	56
6.1 GENERAL	56
6.2 REMEDIAL ACTION	56
7.0 DEMOLITION AND DISPOSAL OF STRUCTURES	60
7.1 GENERAL	60
7.2 REMEDIAL ACTION	60
7.2.1 Initial Clearing of Buildings	61
7.2.2 Demolition	62
7.2.3 Health and Safety	64
7.2.4 Electric Generating Facility	64
7.2.5 Utilities	64
8.0 UNDERGROUND UTILITY REMEDIATION	65
8.1 GENERAL	65
8.2 REMEDIAL ACTION	65

TABLE OF CONTENTS (cont'd)

	<u>Page</u>
9.0 HEALTH, SAFETY AND PERSONNEL HYGIENE	69
10.0 PREPARATION FOR REMEDIAL PLAN IMPLEMENTATION	73
10.1 ACCESS	73
10.2 PERMITS	73
10.3 SECURITY	74
11.0 PROJECT SCHEDULE	75

## LIST OF FIGURES

	<u>Page</u>
FIGURE 1 KEY PLAN	1a
FIGURE 2 GENERAL SITE PLAN	1b
FIGURE 3 EXISTING MONITORING WELLS	11a
FIGURE 4 AVERAGE CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS - SHALLOW WELL DATA	11b
FIGURE 5 AVERAGE CONCENTRATION OF VOLATILE ORGANIC COMPOUNDS - INTERMEDIATE WELL DATA	11c
FIGURE 6 SITE VICINITY PRODUCTION WELLS	12a
FIGURE 7 SHALLOW PLUME DEFINITION WELLS	14a
FIGURE 8 INTERMEDIATE PLUME DEFINITION WELLS	14b
FIGURE 9 DEEP PLUME DEFINITION WELLS	14c
FIGURE 10 EXTRACTION/INJECTION SYSTEM	16a
FIGURE 11 WATER LEVEL MONITORING LOCATIONS	19a
FIGURE 12 PIEZOMETER NETWORK	19b
FIGURE 13 MONITORING WELLS	19c
FIGURE 14 COMPLIANCE WELLS	19d
FIGURE 15 PRODUCTION WELLS TO BE MONITORED	20a
FIGURE 16 MONITORING LOCATIONS FOR NON-VOC WATER QUALITY GOALS	29a

## LIST OF FIGURES

	<u>Page</u>
FIGURE 17 SCHEMATIC FLOW DIAGRAM - GROUNDWATER TREATMENT PROCESS	40a
FIGURE 18 COMPOSITE CAP CONSTRUCTION	50a
FIGURE 19 CAPPING AREAS	51a
FIGURE 20 SOIL EXCAVATION AREAS	56a
FIGURE 21 SOIL EXCAVATION AREAS	56b
FIGURE 22 SOIL EXCAVATION AREAS	56c
FIGURE 23 SOIL EXCAVATION AREAS	56d
FIGURE 24 SOIL EXCAVATION AREAS	57a
FIGURE 25 EXISTING UTILITY MAP	65a
FIGURE 26 LOCATION OF UNDERGROUND UTILITY SEVERANCE TRENCH	67a
FIGURE 27 STORM SEWER SYSTEM	68a
FIGURE 28 PROJECT SCHEDULE	75a

## LIST OF TABLES

	<u>Page</u>
TABLE 4-1 INITIAL INFLUENT VOC CONCENTRATION USED IN TREATMENT TECHNOLOGY SIZING AND PREDICTIVE MODELING	37a
TABLE 4-2 ANALYSIS OF TREATMENT PLANT EFFLUENT	45a
TABLE 4-3 ANALYSIS OF FORD HYDRAULIC CANAL	46a



## 1.0 INTRODUCTION

The Chem-Dyne Site (Site) is located in the northern section of the City of Hamilton, Ohio. The location of the Chem-Dyne Site is illustrated on Figures 1 and 2.

This report presents the Remedial Action Plan prepared by the Settling Defendants. Also included in this report is a schedule for the final design and implementation of the Remedial Action Plan.

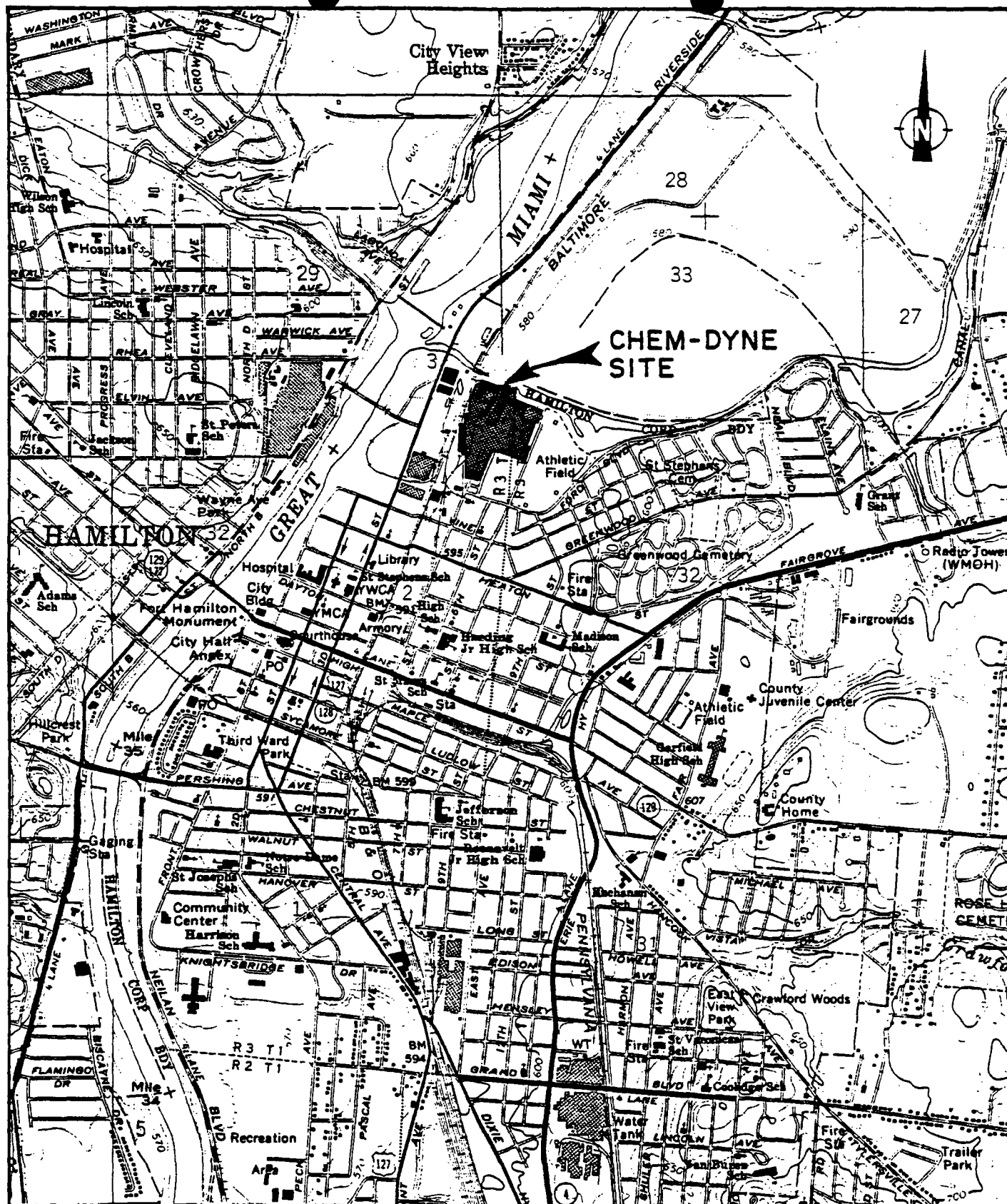
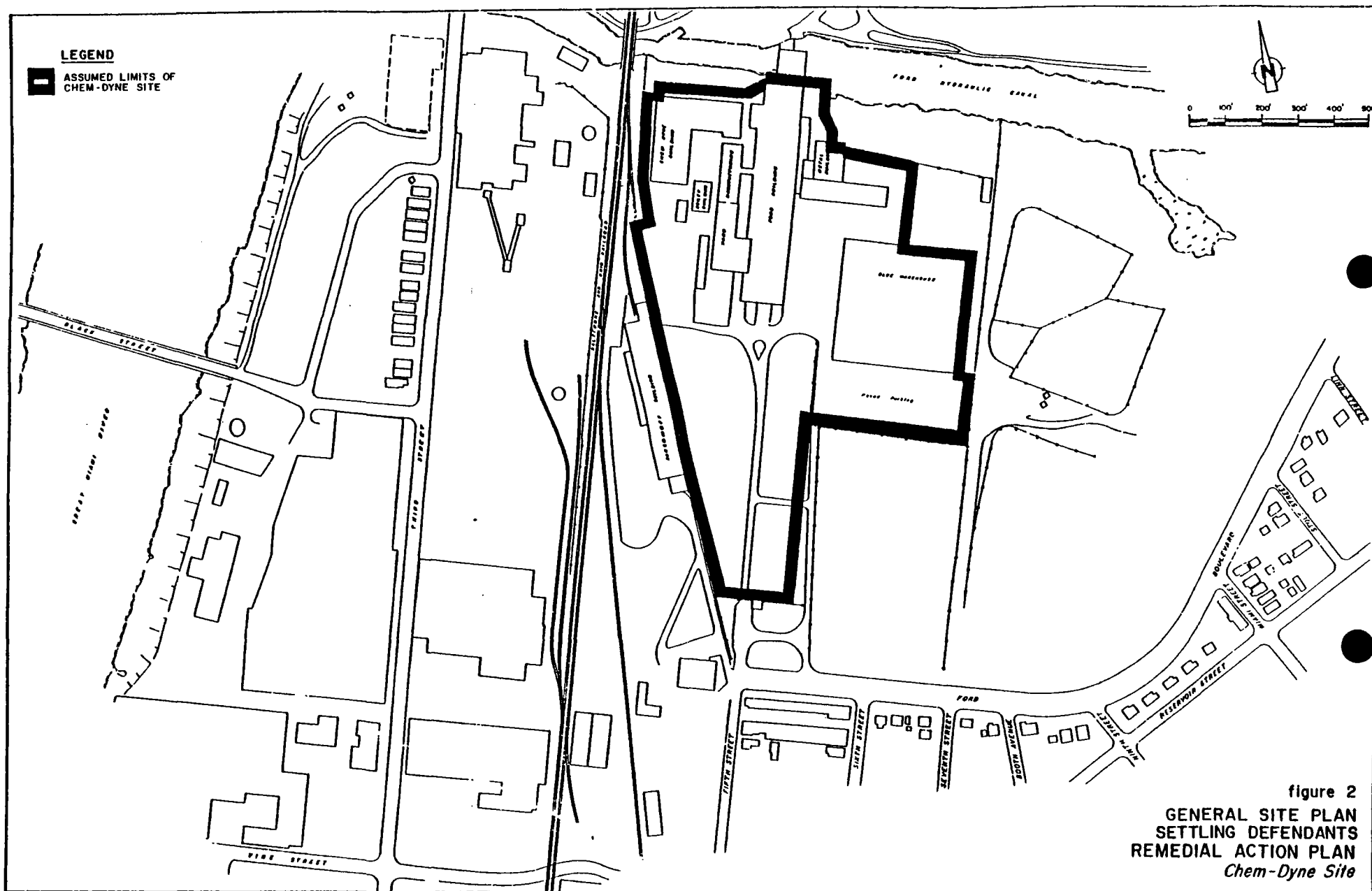


figure 1

KEY PLAN  
SETTLING DEFENDANTS  
REMEDIAL ACTION PLAN  
*Chem-Dyne Site*



## 2.0 REMEDIAL ACTION PLAN

### 2.1 SCOPE

Remedial investigations to date conducted at the Chem-Dyne Site have identified three major environmental objectives which can be summarized as follows:

- i) Protection and enhancement of the quality of groundwater and recovery of the natural resource of groundwater in the vicinity of the Chem-Dyne Site.
- ii) Protection of the quality of surface waters in the vicinity of the Chem-Dyne Site.
- iii) Protection of the public from direct contact with contaminated material on or near the Chem-Dyne Site, and from the migration of surficial Site contaminants from the Site by surface water runoff, wind erosion, and volatilization.

The Remedial Action Plan (Plan) addresses these objectives by provision of the following components:

- i) A groundwater extraction/injection system designed to contain hydraulically and remove the groundwater contaminant plume to stated levels.

- ii) A system to treat extracted groundwater to meet permit requirements for discharge or reinjection.
- iii) Excavation and disposal at sites approved by USEPA of selected "hot spot" surficial Site soils containing excessive contamination.
- iv) A protective soil cover over the Site to isolate remaining soil contamination and to eliminate both direct contact with Site contaminants by humans and animals, and off-Site migration of contaminants by surface runoff, volatilization and wind transport.
- v) An engineered cap over the Site constructed of low permeability natural and synthetic materials to effectively prevent the migration of remaining soil contaminants from the unsaturated zone to the groundwater system.
- vi) Demolition of all on-Site structures with on-Site disposal of debris unsuitable for salvage. Removal and disposal at sites approved by USEPA of hazardous wastes or potentially significantly contaminated materials from within the on-Site structures.
- vii) Disposal of miscellaneous non-hazardous materials from in and adjacent to the existing Site structures.

- viii) Elimination of other potential pathways of migration of contaminants from the Site, including existing sewers and subsurface utilities.
- ix) Provision of health, safety and personnel hygiene programs designed to minimize adverse impacts to on-Site workers, the general public and the environment at large during the implementation of the Plan.
- x) Contingencies for various remedial components as outlined in the Plan.
- xi) A program for operation and maintenance of the various remedial components of the Plan.

In conjunction with each phase of the Plan, a monitoring scheme will be implemented to evaluate the effectiveness of the Plan.

## 2.2 GROUNDWATER

The enhancement of groundwater quality and the recovery of the groundwater natural resource in the aquifer underlying the Site is a primary concern of the Remedial Action Plan. The Plan uses a system of extraction wells placed along and within the contaminant plume to contain hydraulically and remove contaminated groundwater for treatment.

Furthermore, in order to accelerate the removal of contaminants from the aquifer, the Plan incorporates a system for recirculating part of the treated groundwater through the contaminated zone of the aquifer. The water recirculation system consists of a series of injection wells strategically installed within the capture zone of the extraction well system. This combined extraction/injection well system will result in an increased rate of groundwater displacement within the contaminated zone and, therefore, an increased rate of removal of water soluble contaminants from the aquifer. The extraction/injection system is designed to circulate an average of 2.6 pore volumes per year through the contaminated zones of the aquifer. It is anticipated by the Settling Defendants that ten years of operation will result in the attainment of performance and compliance criteria for groundwater remediation.

Treated groundwater which is not reinjected within the zone of present contamination will be discharged into the Ford Hydraulic Canal.

### 2.3 SURFACE WATERS

Factors related to the potential contamination of the local surface waters (Ford Hydraulic Canal and Great Miami River) include:

- i) Erosion of contaminated soils from the Site and subsequent transport to receiving surface waters as a result of storm events.
- ii) Discharge of effluent from existing Site sewers which may contain infiltrated contaminants.
- iii) Direct or indirect discharge of contaminated groundwater to the local surface waters.

Erosion of contaminated soils will be eliminated by the installation and maintenance of a protective soil cover over impacted surface areas of the Site.

Sewer discharges will be eliminated by the closure of all existing sewer lines underlying the Site. Closure of sewers will include the sealing of sewer bedding materials to eliminate potential seepage from the Site through these media.

It is anticipated by the Settling Defendants that the hydraulic containment system for the Site will control the discharge of contaminated groundwater to the local surface waters.



## 2.4 SITE SOILS AND ON-SITE STRUCTURES

The Remedial Action Plan will include the construction of a protective soil cover over contaminated surface areas to eliminate the potential for direct contact with the soil. As stated earlier, the cover will also eliminate the potential for erosion and off-Site transport of contaminated soils by surface water runoff and wind. It will also prevent the uncontrolled volatilization of contaminants from the Site to the atmosphere.

Soils throughout the unsaturated zone at the Site contain water soluble contaminants which have migrated and will continue to migrate to the groundwater under the influence of infiltrating precipitation. The Remedial Action Plan provides for construction of an engineered low-permeability cap over the Site to effectively prevent the long term impact of soluble soil contaminants on the groundwater.

Collection and analysis of samples from the Site has identified "hot spots" of soil contamination. These "hot spots" will be excavated and removed to sites approved by USEPA under the Remedial Action Plan.

The Plan provides for the demolition of all on-Site structures. Significantly contaminated demolition debris, as determined in Paragraph V of the Consent Decree, will be removed to sites approved by USEPA. Steel determined not to be significantly contaminated will be salvaged for smelting.

The Site structures contain some hazardous or possibly hazardous materials including asbestos insulation, retained samples from drummed and tank waste removed from the Site, gas cylinders (lecture bottles), drummed waste from soil and well sampling activities, process equipment, process piping and transformers. These materials will be removed from the Site under the Remedial Action Plan to sites approved by USEPA. Asbestos waste will be disposed of at an approved Ohio site.

## 2.5 HEALTH, SAFETY AND PERSONNEL HYGIENE

A stringent health, safety and personnel hygiene program will be enforced during implementation of the Plan to protect on-Site workers, the general public and the environment at large. This program will address the following areas:

- i) Entry and exit medical surveillance for on-Site staff.
- ii) Site personnel training.
- iii) Respiratory protection.
- iv) Work zone, Site boundary and off-Site ambient air monitoring.
- v) Delineation of uncontaminated and potentially contaminated areas.
- vi) Prevention of contaminant migration.
- vii) Decontamination of personnel, materials and equipment.
- viii) Security.
- ix) Contingency planning.

### 3.0 GROUNDWATER

#### 3.1 INTRODUCTION

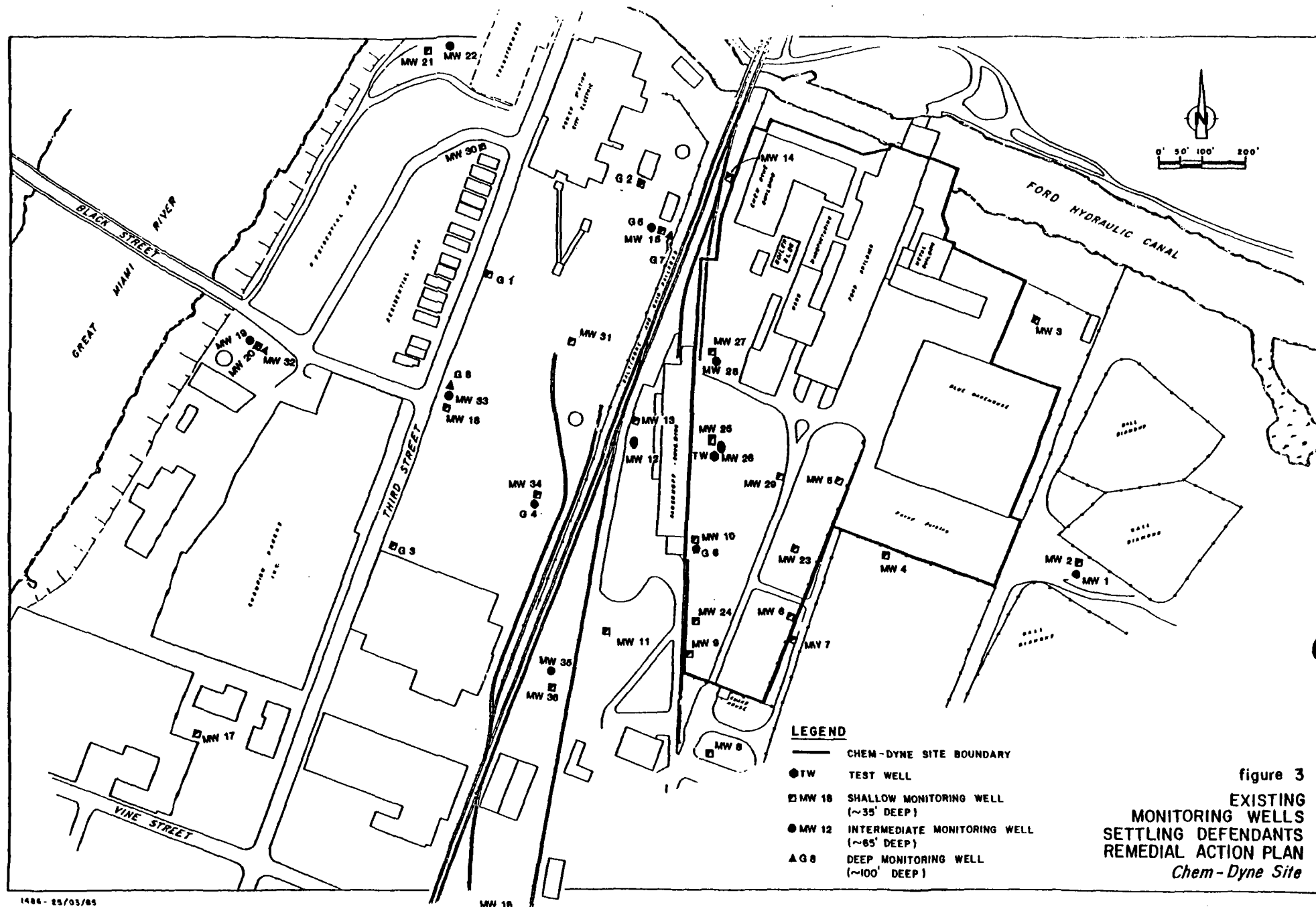
The Chem-Dyne Site is underlain by a buried-valley aquifer consisting of unconsolidated sands and gravels, interfingering with finer materials such as silty sands, silts, silty clays and glacial till. The bedrock in the vicinity of the Site is reported to be at a depth of approximately 180 feet. The aquifer is a source of water for industrial and municipal supplies. Presently, groundwater development in the vicinity of the Site is primarily for industrial uses and for air conditioning in the downtown Hamilton area. The City of Hamilton North Well Field is located about one mile north of the Site and the Hamilton South Well Field about five miles south-southwest of the Site. Production wells in the area are typically 100 to 150 feet deep, producing 500 gallons per minute (gpm) or more from the deeper parts of the aquifer. The water table in the vicinity of the Site is at a depth of 25 to 30 feet with seasonal and river-induced fluctuations of plus or minus five feet.

Groundwater conditions at and in the vicinity of the Site were investigated during the remedial investigations conducted by the United States Environmental Protection Agency (USEPA). In addition, supplemental

hydrogeologic investigations were conducted by the Settling Defendants. The combined investigations included the installation of one test well and 44 monitoring wells, ranging in depth from 30 to 120 feet. The locations of these wells are shown on Figure 3. Data on groundwater levels and quality were obtained from these wells and hydrologic tests were conducted to determine the hydraulic properties of the aquifer.

### 3.2 PROBLEM DEFINITION

The results of the hydrogeologic investigations to date indicate that past operations at the Site have contaminated the upper part of the underlying aquifer. Priority pollutant volatile organic compounds (VOCs) account for about 96 percent of the contaminant mass identified in the groundwater. Most of the groundwater contamination was detected in shallow wells open to the upper five to ten feet of the aquifer. Figure 4 shows the approximate extent of the area where the average concentration of priority pollutant VOCs at shallow depth is greater than 0.1 parts per million (ppm). In three areas, contamination at average concentrations greater than 0.1 ppm has also been detected in intermediate depth wells screened between a depth of about 55 to 65 feet (see Figure 5).



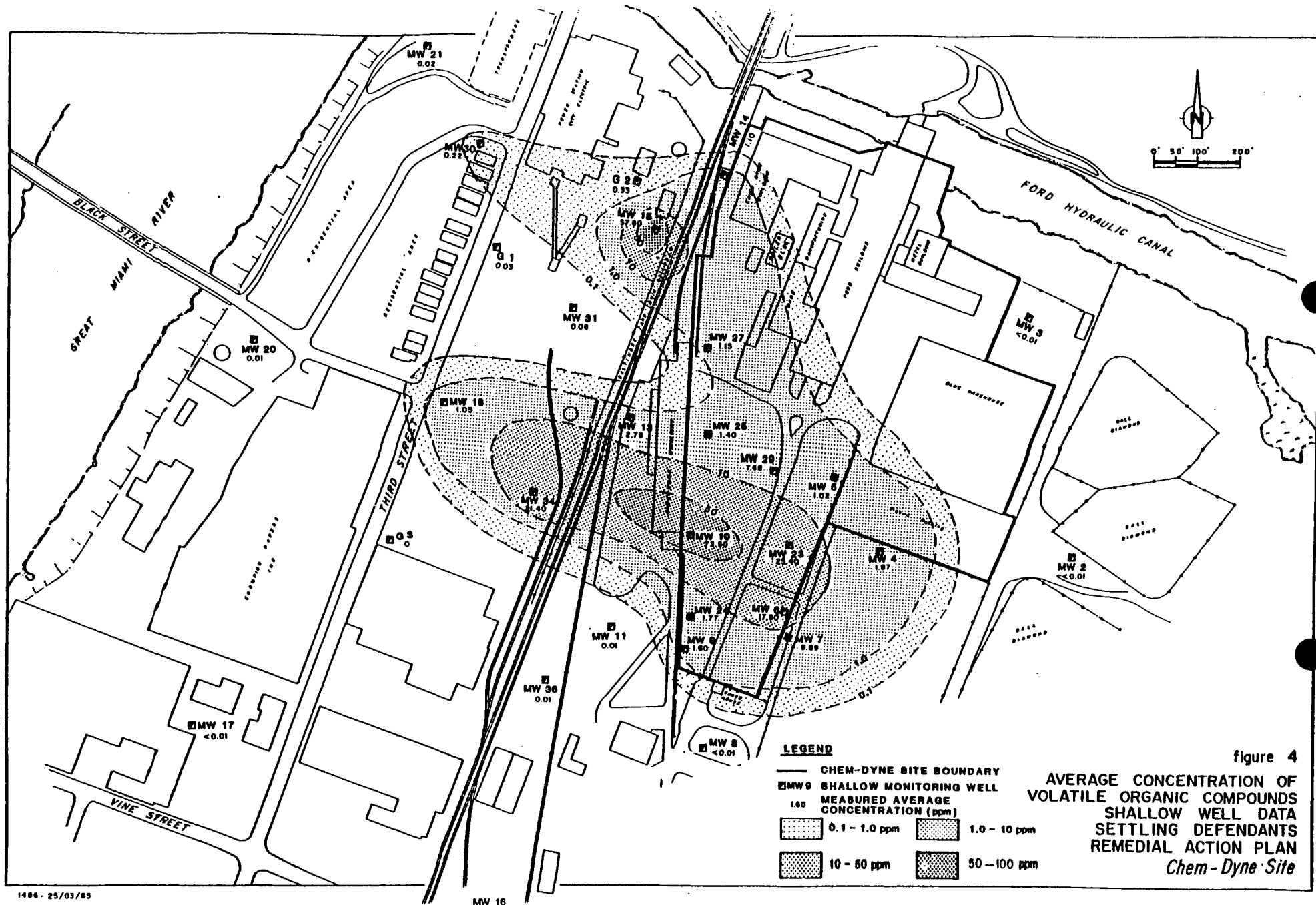


figure 4

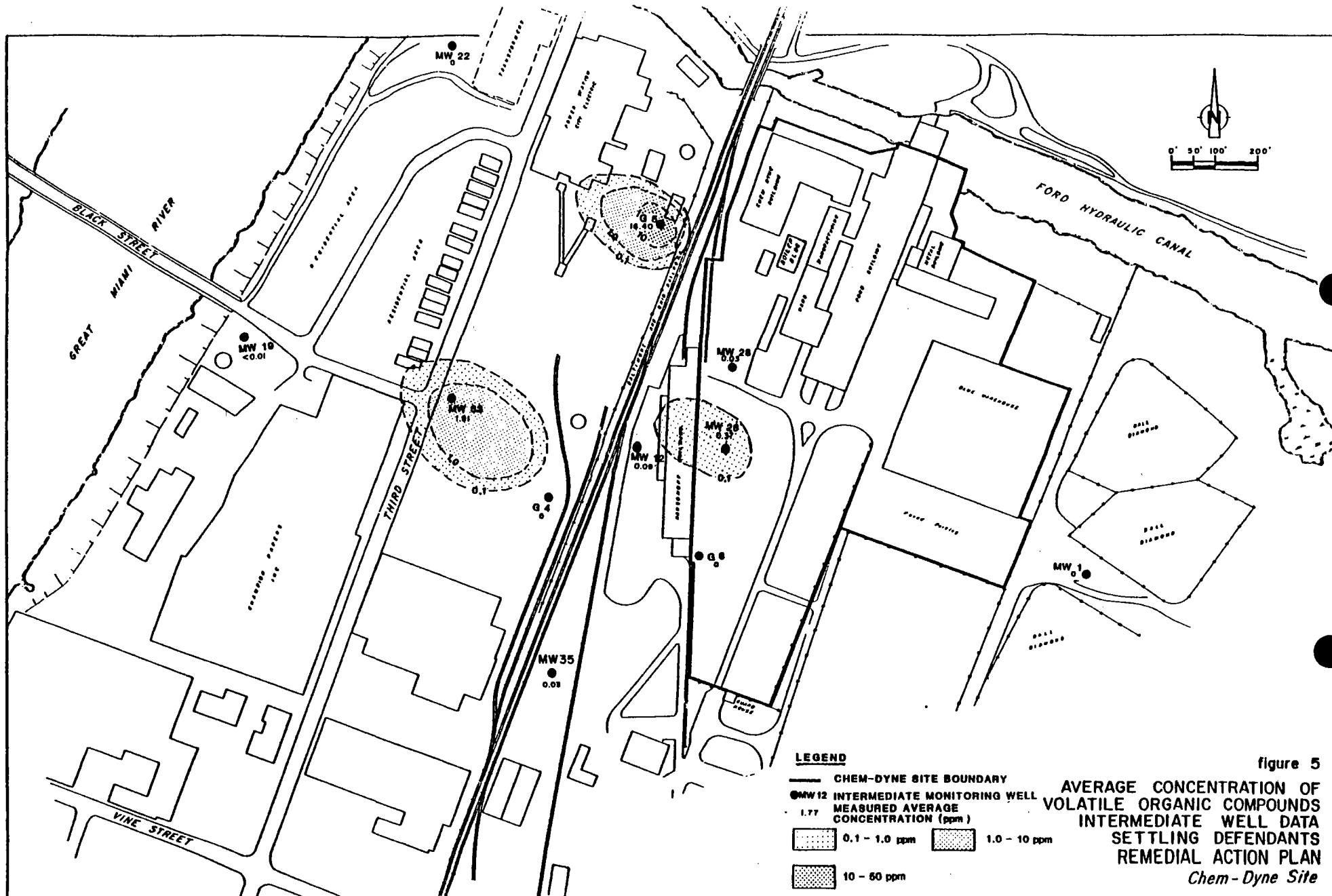


figure 5  
 AVERAGE CONCENTRATION OF  
 VOLATILE ORGANIC COMPOUNDS  
 INTERMEDIATE WELL DATA  
 SETTLING DEFENDANTS  
 REMEDIAL ACTION PLAN  
 Chem-Dyne Site



Within the depth of groundwater contamination, flow is generally to the west with an estimated rate of movement of approximately 0.5 feet per day (ft/d) at shallow depth and approximately 1.5 ft/d at intermediate depth. However, water-level data also indicate relatively steep downward gradients which become steeper west of the Site, toward the Great Miami River. Thus, the potential for downward migration of contaminants increases as contaminated groundwater moves further west of the Site. In the deeper parts of the aquifer, flow in the vicinity of the Site is toward pumping centers to the west and southwest of the Site.

These directions of flow indicate that potential receptors of groundwater flowing beneath the Site are industrial production wells in the vicinity of the Site (see Figure 6), which include wells at Champion Paper Co., City of Hamilton Electric Power Co., Beckett Paper Co., and the Mercy Hospital which uses groundwater for air conditioning, and the Great Miami River, either through direct discharge of groundwater from the shallow depth, or through indirect discharge of groundwater pumped from the deeper parts of the aquifer. Therefore, the environmental concerns with the presence of priority pollutant VOCs in the groundwater beneath and in the vicinity of the Site are the possible impacts on these potential receptors of groundwater.



### 3.3 REMEDIAL ACTION

To remediate groundwater contamination beneath and downgradient of the Site, an extraction well system will be installed within the zone of groundwater contamination. This extraction well system will hydraulically contain and remove contaminated groundwater for treatment. Further, in order to accelerate the improvement of groundwater quality, a well system will be installed to inject a portion of the treated water back into the upper part of the formation at strategic locations within the capture zone of the extraction well system.

This remedial action has four components:

- i) An extraction/injection well system.
- ii) A treatment facility for extracted groundwater.
- iii) A groundwater monitoring program.
- iv) A number of contingency measures.

Each of these components is discussed in the sections that follow.

### 3.3.1 Extraction/Injection Well System

The design of the extraction/injection well system proposed herein is based on the following performance and design criteria:

- i) Downgradient of the Site, the outermost extraction wells will be located at or beyond the plume boundary defined by the 0.1 ppm total priority pollutant VOC isopleth.
- ii) The system will establish and maintain an inward hydraulic gradient horizontally and vertically, to ensure that the contaminated groundwater within the plume boundary is contained and removed for treatment.
- iii) The system will be cost-effective and capable of reducing the total priority pollutant VOC concentration within the plume boundary, as defined in i) above, to 0.1 ppm, and will meet the other applicable goals and standards of the Consent Decree.

Before implementation of the extraction/injection system, the 0.1 ppm total priority pollutant VOC isopleth defining the plume boundary will be determined by three consecutive monthly samplings at the shallow, intermediate and deep monitoring wells shown on Figures 7, 8, and 9 respectively.

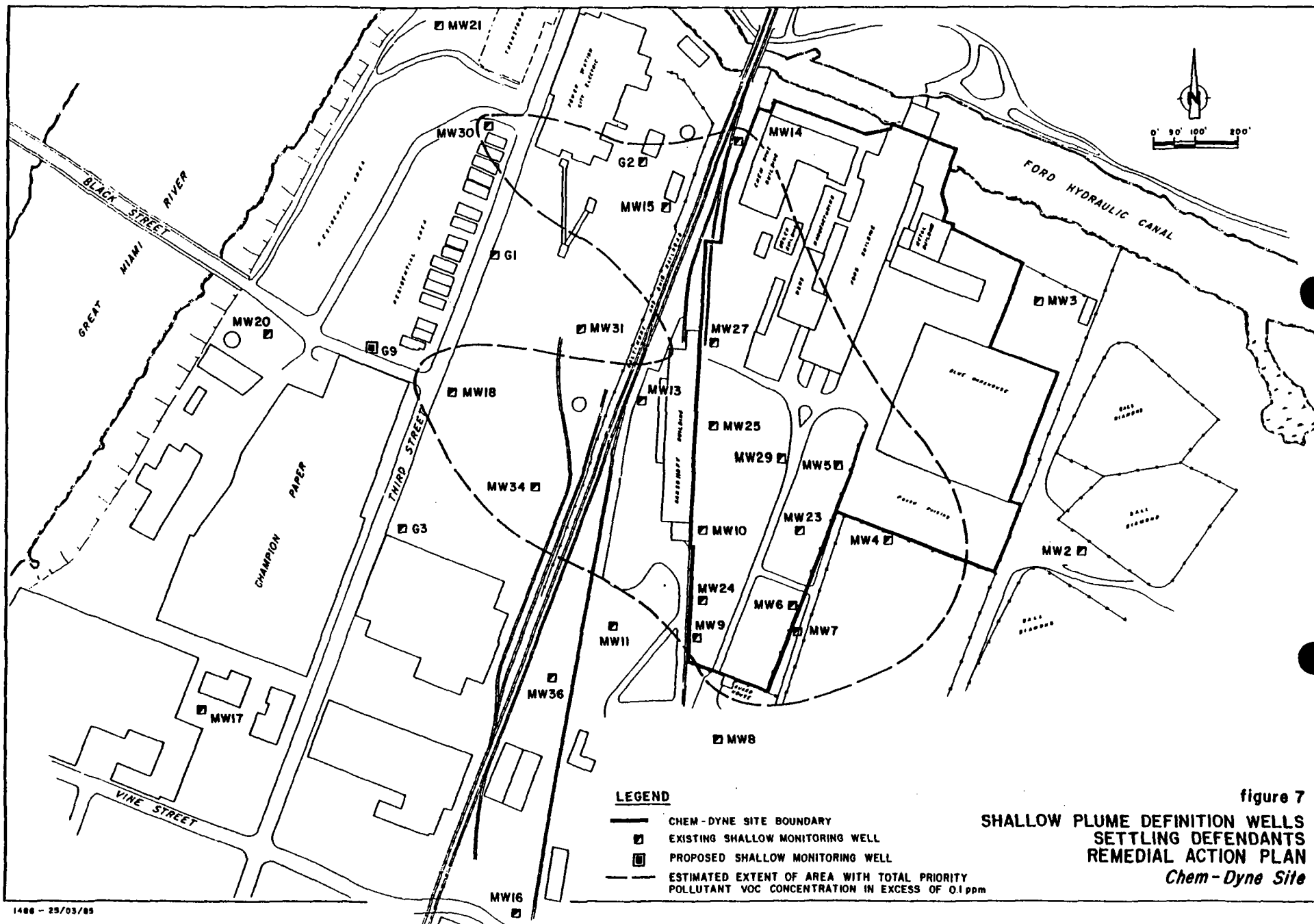
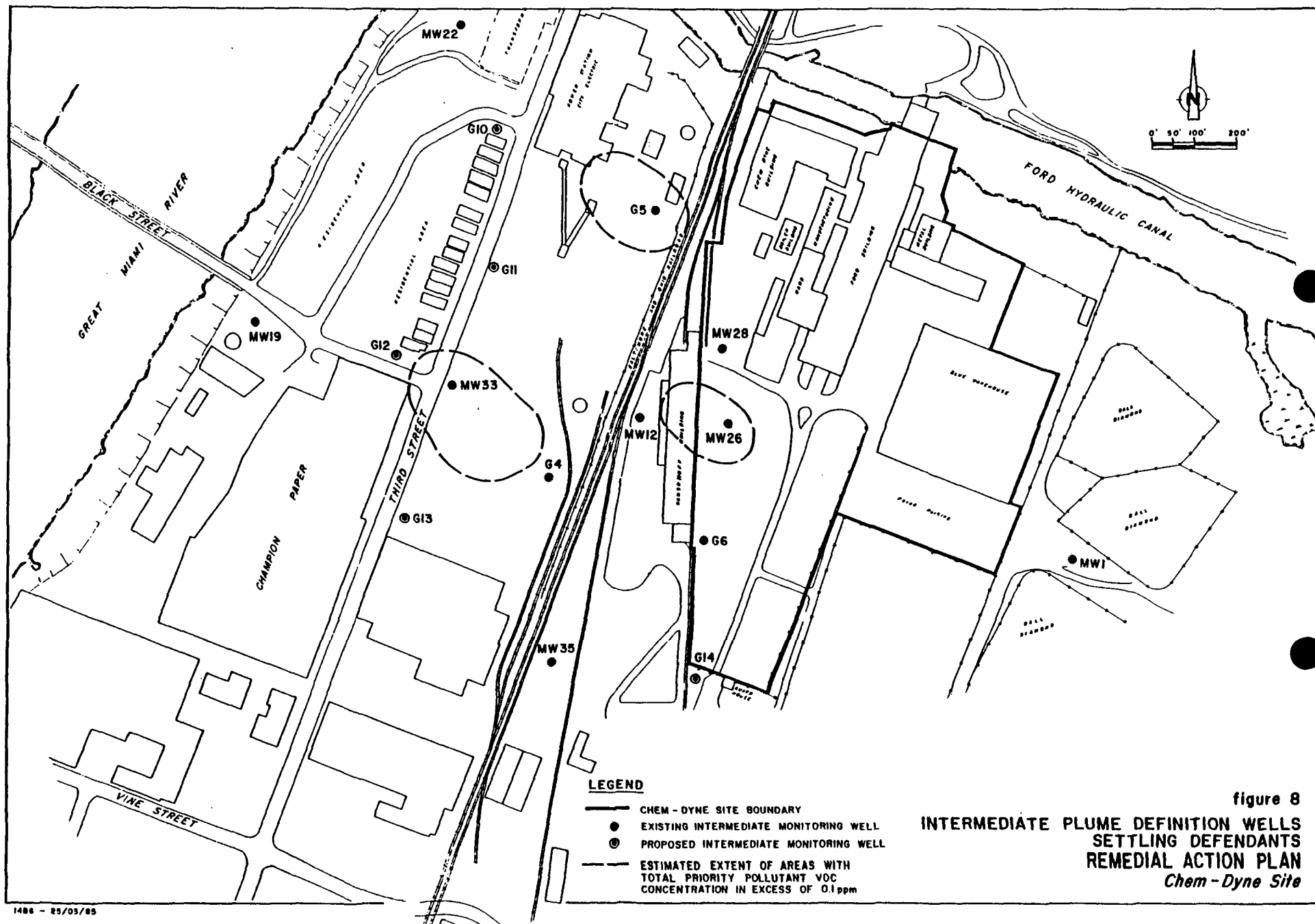
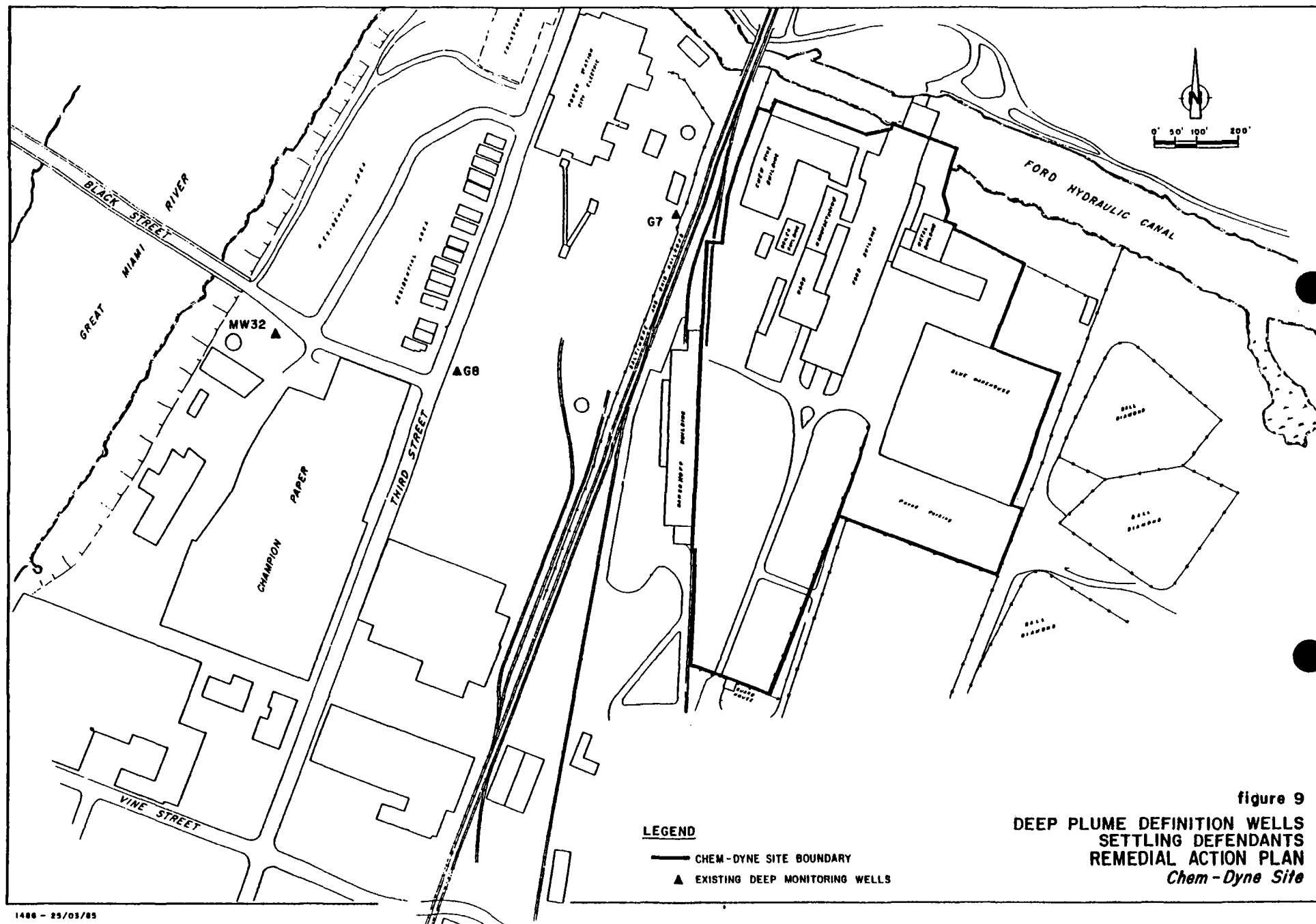


figure 7  
 SHALLOW PLUME DEFINITION WELLS  
 SETTLING DEFENDANTS  
 REMEDIAL ACTION PLAN  
 Chem-Dyne Site





Pending the final definition of this plume boundary, the preliminary design of the system is based on the positions of the 0.1 ppm total priority pollutant VOC isopleths shown on Figures 7 and 8.

Initially, the extraction/injection system will consist of 19 extraction and eight injection wells. Three of the extraction wells will be located within the zone of contamination at intermediate depth. Each will be 70 feet deep and screened between a depth of 45 to 70 feet. The total pumping rate for these three wells will be 135 gpm. The remaining 16 extraction wells will be located within the zone of contamination at shallow depth. They will be 45 feet deep and screened between the water table and total depth. The total pumping rate from these wells will be 415 gpm. Thus, a combined total of 550 gpm of groundwater will be pumped through shallow and intermediate depth extraction wells.

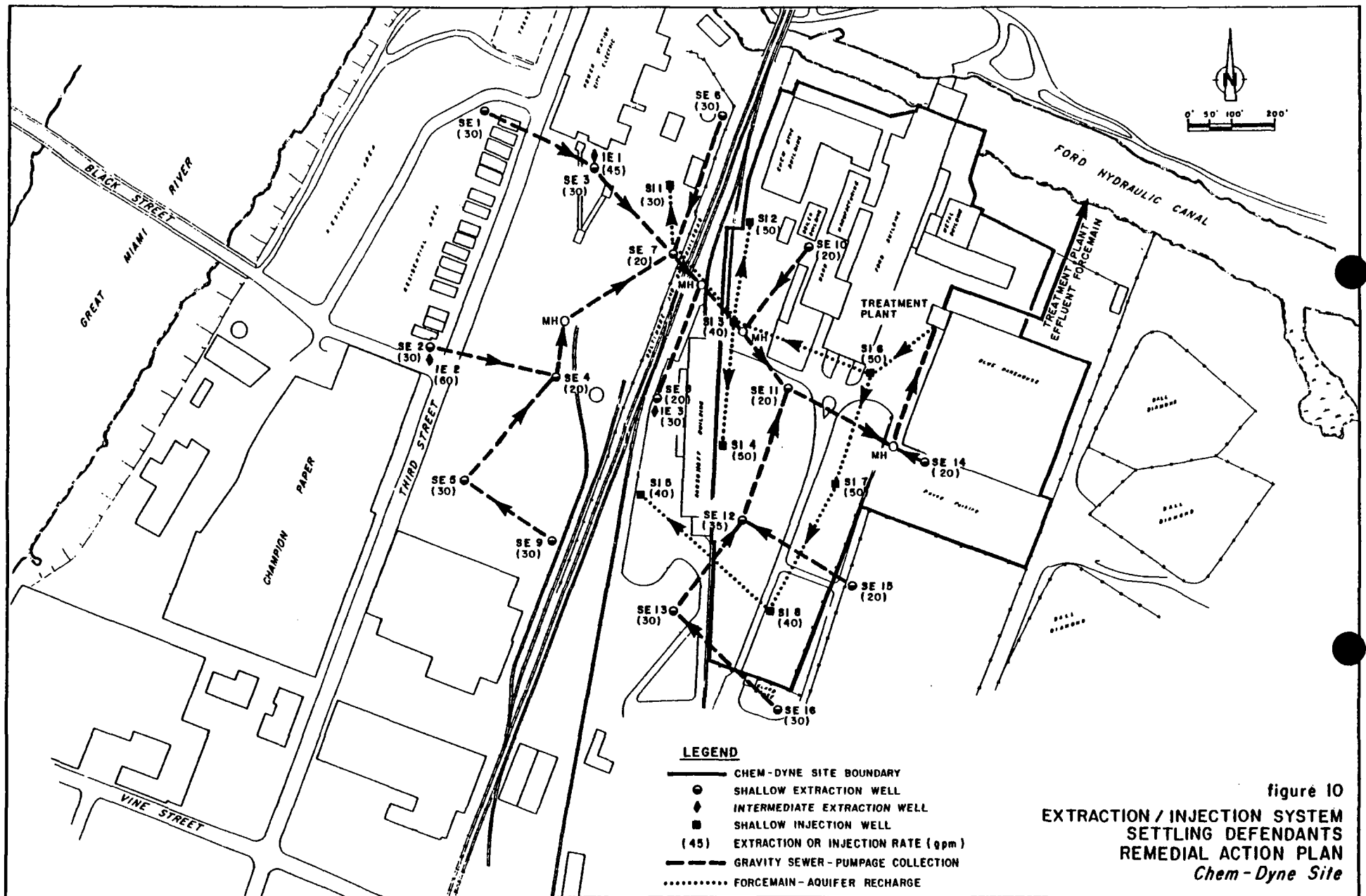
The water collected from the extraction wells will be transported through gravity pipelines to a central storage point pending treatment. After treatment, part of the extracted water will be distributed to the eight injection wells by a forcemain network pressurized at the treatment facility. Initially, about 65 percent (350 gpm) of the treated water will be used for injection. The injection wells will be about 35 feet deep and screened between the



water table and total depth. The shallower depth of the injection wells and their location in the center of extraction well clusters will ensure that the injected water is contained within the zone of capture of the extraction wells. The remaining treated water (initially about 35 percent or 200 gpm) will be discharged into the Ford Hydraulic Canal above the dam.

Figure 10 shows the preliminary locations of the extraction and injection wells, the treatment facility, and the water collection and distribution system to and from the facility. The outermost extraction wells are located on the contaminant plume boundaries. Also shown on Figure 10 are the preliminary extraction and injection rates for individual wells. Final well locations may need to be adjusted after redefinition of the plume boundary referred to previously. Extraction/injection rates for individual wells will also need to be adjusted from time to time during operation to establish and maintain an effective and efficient system.

The extraction system will be operated for a minimum period of ten years. The system has been designed to contain hydraulically and remove the contaminated groundwater within and beyond the plume boundary during this period of operation. The system has also been designed to circulate an average of about 26 pore volumes of water through the



contaminated zones over a 10-year period. However, the number of pore volumes to be circulated in ten years will differ from area to area, ranging from at least 15 in areas of low levels of contamination to more than 40 in areas of high levels of contamination. Theoretically, based on retardation coefficients for different priority pollutant VOCs reported in earlier site investigations, the Settling Defendants estimate that the number of circulated pore volumes would be sufficient to meet the performance criterion of less than 0.1 ppm total priority pollutant VOCs at the end of a 10-year operation period.

To implement the proposed extraction/injection system, easements will be obtained by land purchase or condemnation in order to install some of the wells and the water collection and distribution lines. Also, Underground Injection Control (UIC) and National Pollution Discharge Elimination System (NPDES) permits will be issued to inject the extracted water and/or to discharge it into the Ford Hydraulic Canal.

### 3.3.2 Treatment Facility

The treatment facility for the extracted groundwater is discussed in Section 4, Groundwater Treatment.

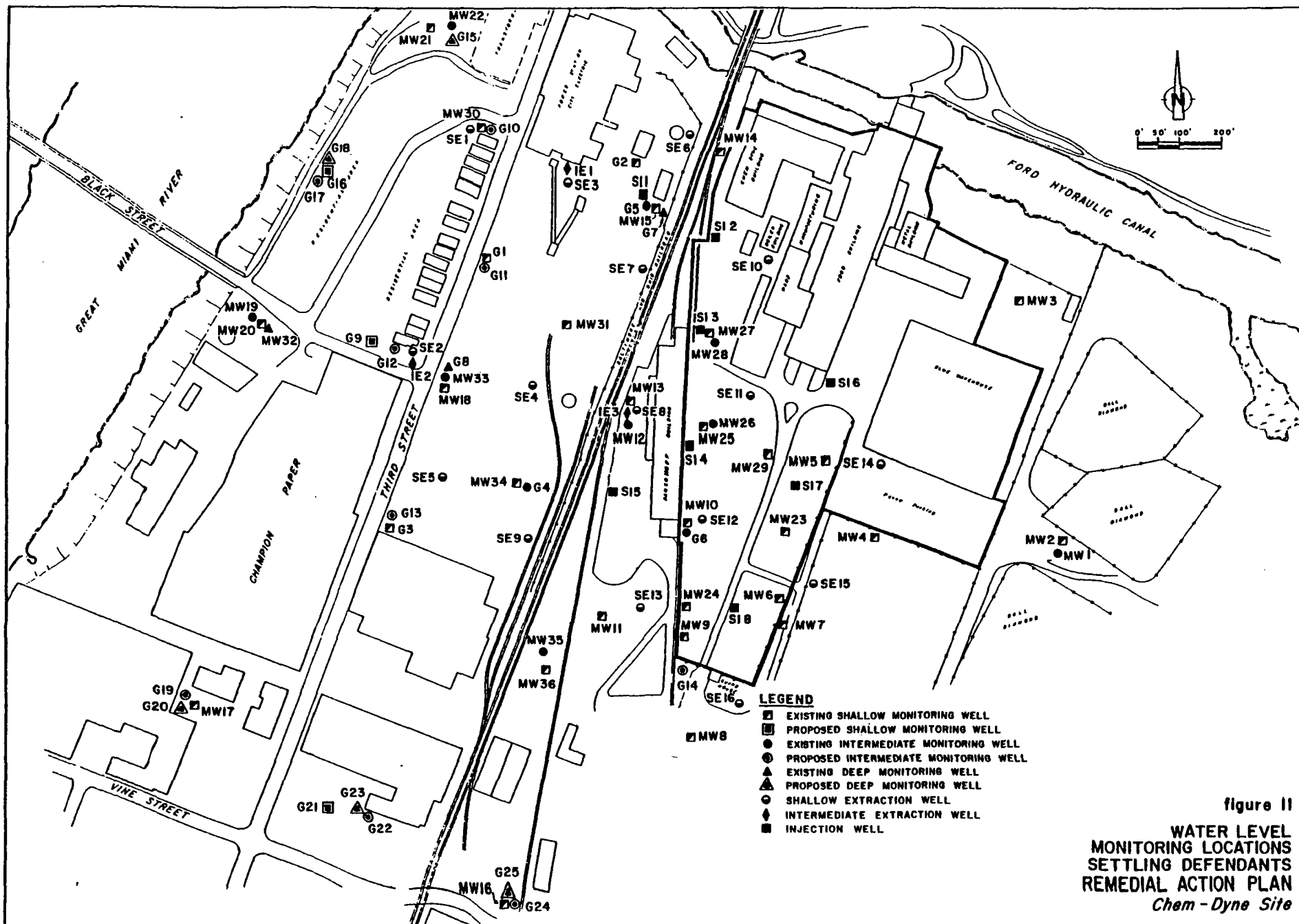
### 3.3.3 Groundwater Monitoring Program

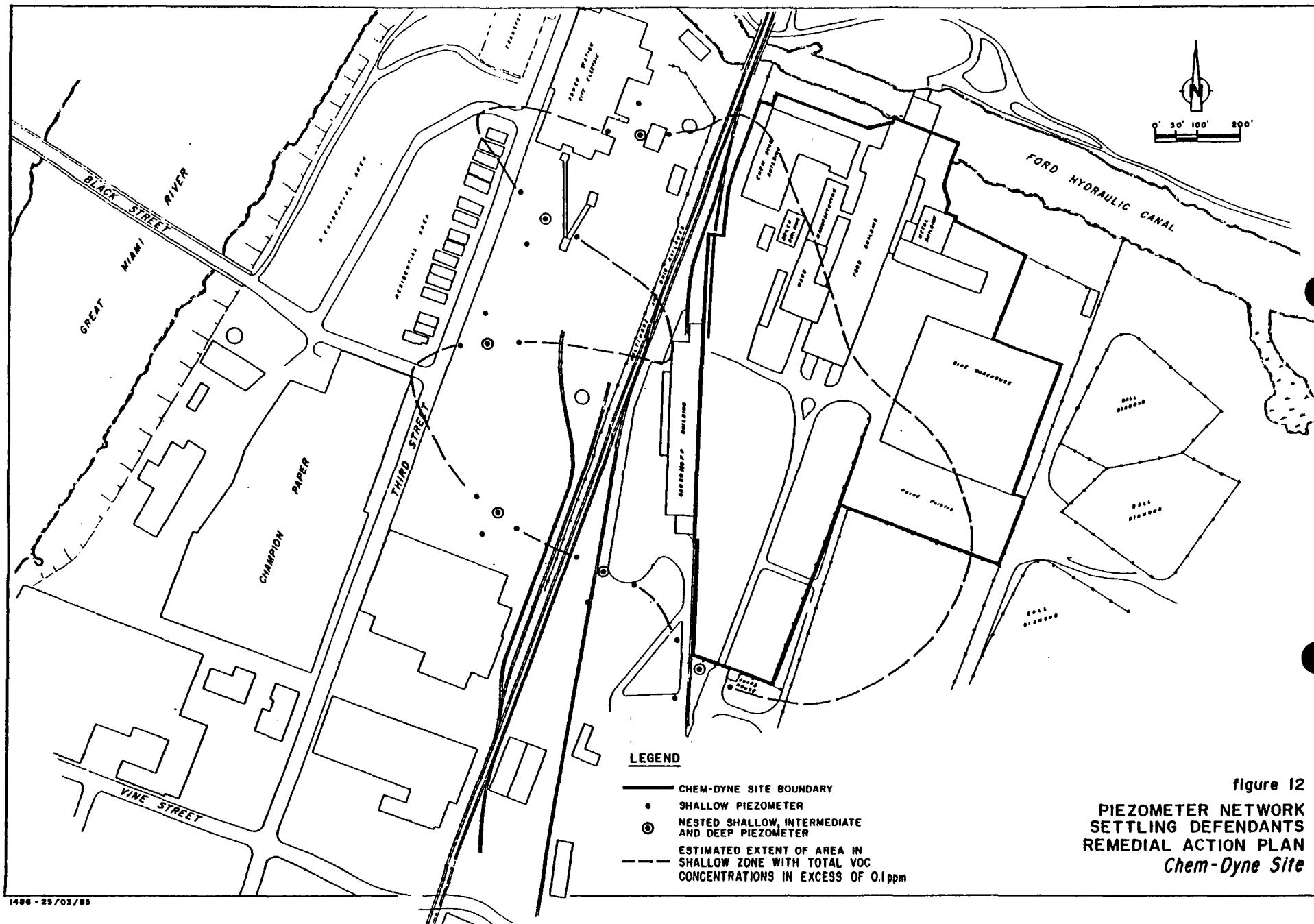
A groundwater monitoring program will be established and operated during and for five years after the termination of the extraction/injection operations at the Site. The objective of this monitoring program is to provide data for:

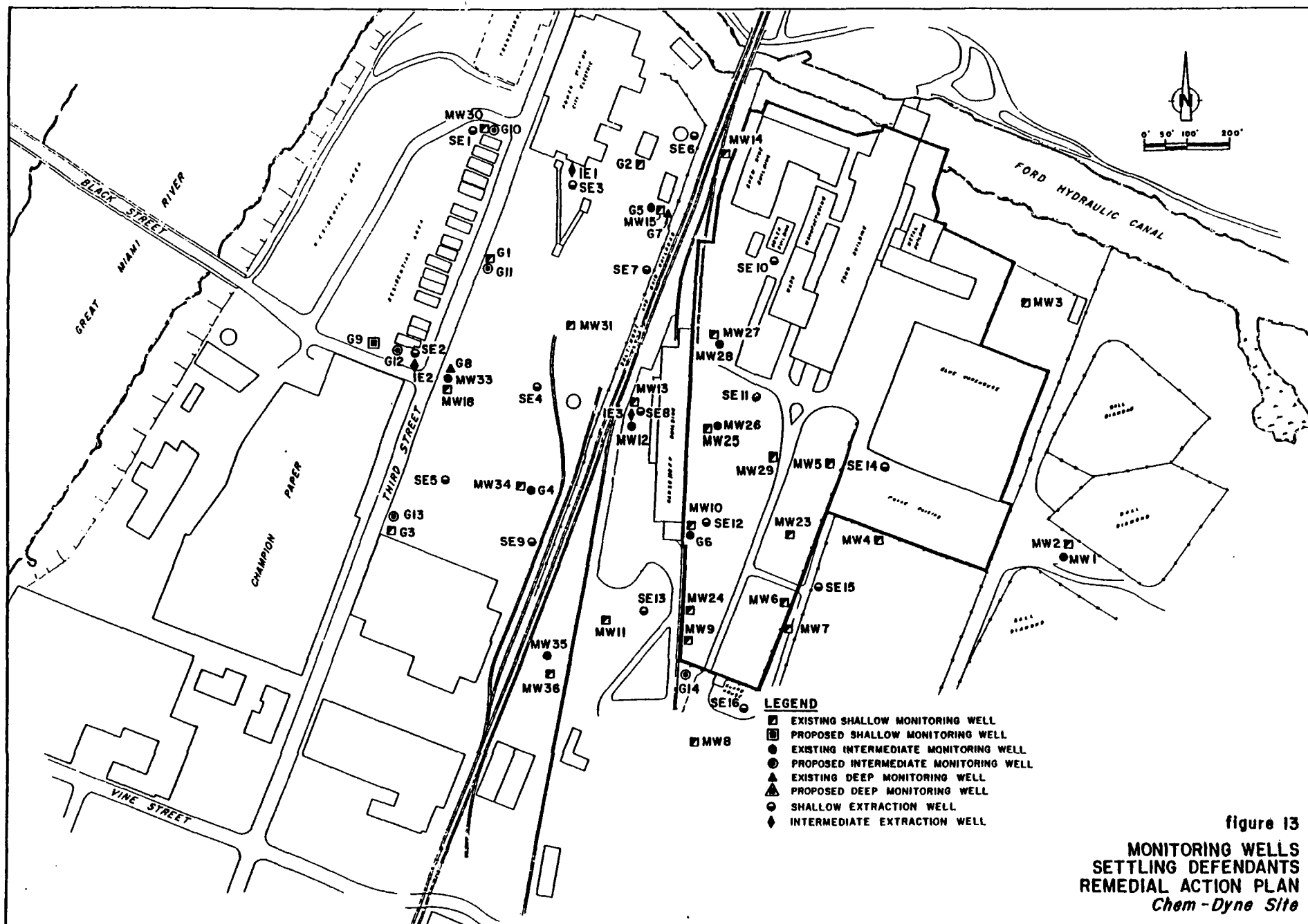
- i) Evaluating the performance of the extraction/injection system with respect to its design criteria so that timely adjustments can be made, if needed.
- ii) Determining whether the operation of the extraction/injection system will be terminated at the end of the initial 10-year period, or at what time thereafter.
- iii) Assessing whether the quality of groundwater at compliance points and within the defined plume boundary after termination of system operations meets performance goals and standards.
- iv) Developing a reliable predictive model, or models, that can be used to assess the effects of system adjustment schemes and the impacts of residual contamination, and of noncompliance, if any, on potential receptors.

Water-level and water-quality data will be obtained from monitoring wells, piezometers, compliance wells, extraction and injection wells and production wells. Specifically, water-level data will be obtained from existing and new monitoring and compliance wells, and extraction and injection wells, all as shown on Figure 11. In addition, the Plan provides for 36 piezometers consisting of a series of six water-level piezometers, each with a 5-foot maximum length bottom screened interval, placed at six locations along the plume boundary. The piezometers will be placed in the configuration illustrated in Figure 12. A cluster of three piezometers, consisting of a shallow depth, an intermediate depth and a deep piezometer, will be placed on the plume boundary. A fourth shallow depth piezometer will be placed outside and normal to the plume boundary and the two remaining shallow depth piezometers will be placed along the plume boundary on either side of the piezometer cluster. For the purpose of this paragraph and with respect to the open interval of the piezometers to be installed, shallow is defined as ten to 15 feet, intermediate as 35 to 40 feet and deep as 70 to 75 feet below the mean annual water table, respectively.

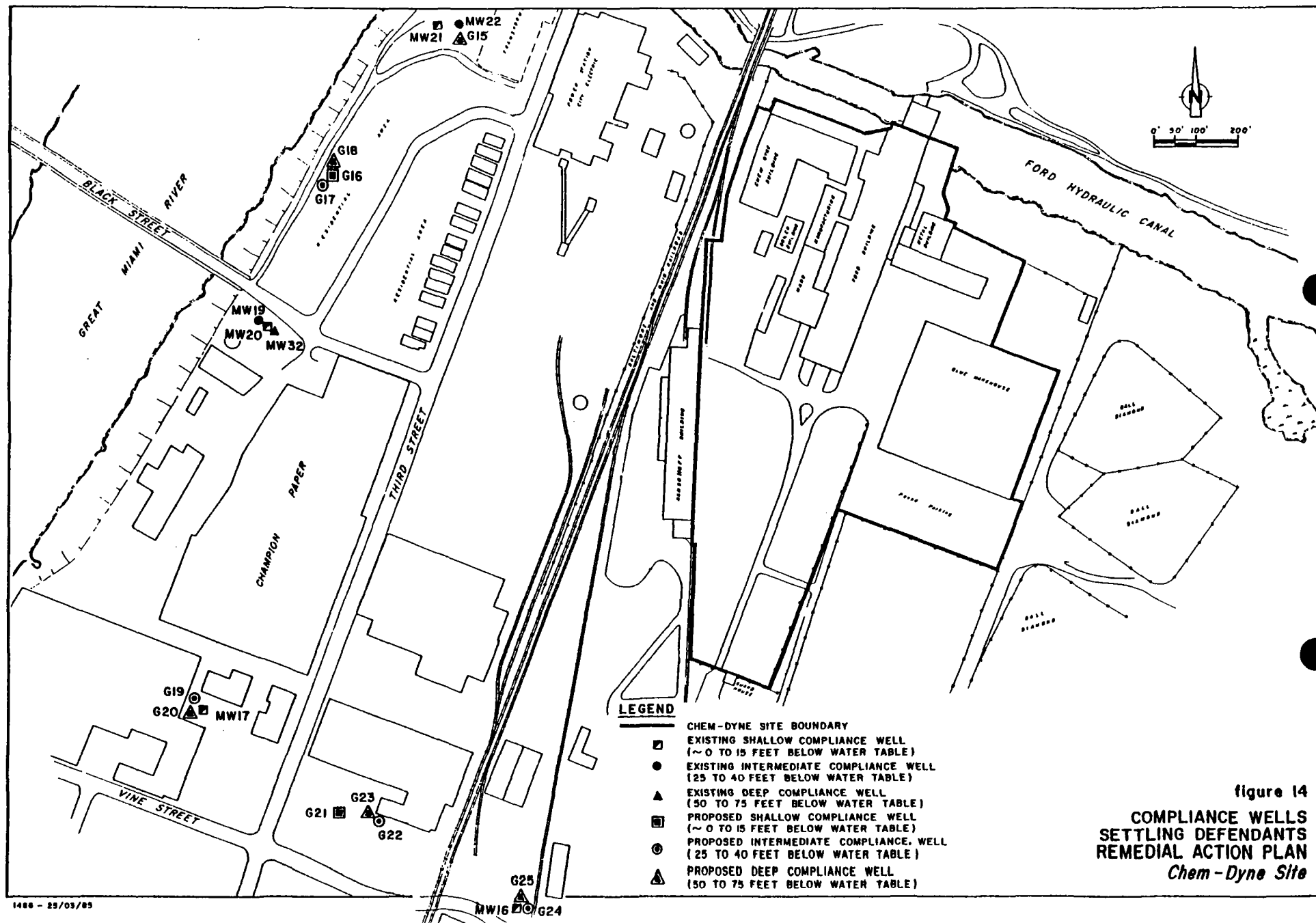
Water-quality data will be obtained from existing and new monitoring wells and extraction wells, (see Figure 13), new and existing compliance wells (see Figure 14), and five nearby production wells. The five nearby











production wells will be the #1 and #4 wells at Champion Paper Company, and one production well each, as accessible, at the City of Hamilton Electric Power Company, Mercy Hospital, and Beckett Paper Company (see Figure 15). For the purpose of this paragraph and with respect to the screened interval of new monitoring and compliance wells, shallow is defined as 0 to 15 feet, intermediate as 25 to 40 feet and deep as 50 to 75 feet below the mean annual water table, respectively.

#### Water Level Monitoring

During the operation of the extraction/injection system, water levels will be measured at all locations shown on Figures 11 and 12 at 15-day intervals for the first year of operation and at 30-day intervals thereafter.

In addition, six locations will be equipped with automatic water-level recorders. These six locations will be the central shallow piezometers of the piezometer clusters to be constructed (Figure 12). These piezometers shall be constructed in a manner that will not impede the operation of the recorder.

After any significant modification to the extraction/injection system, or if water levels at a point or points in the monitoring network are unstable, then the

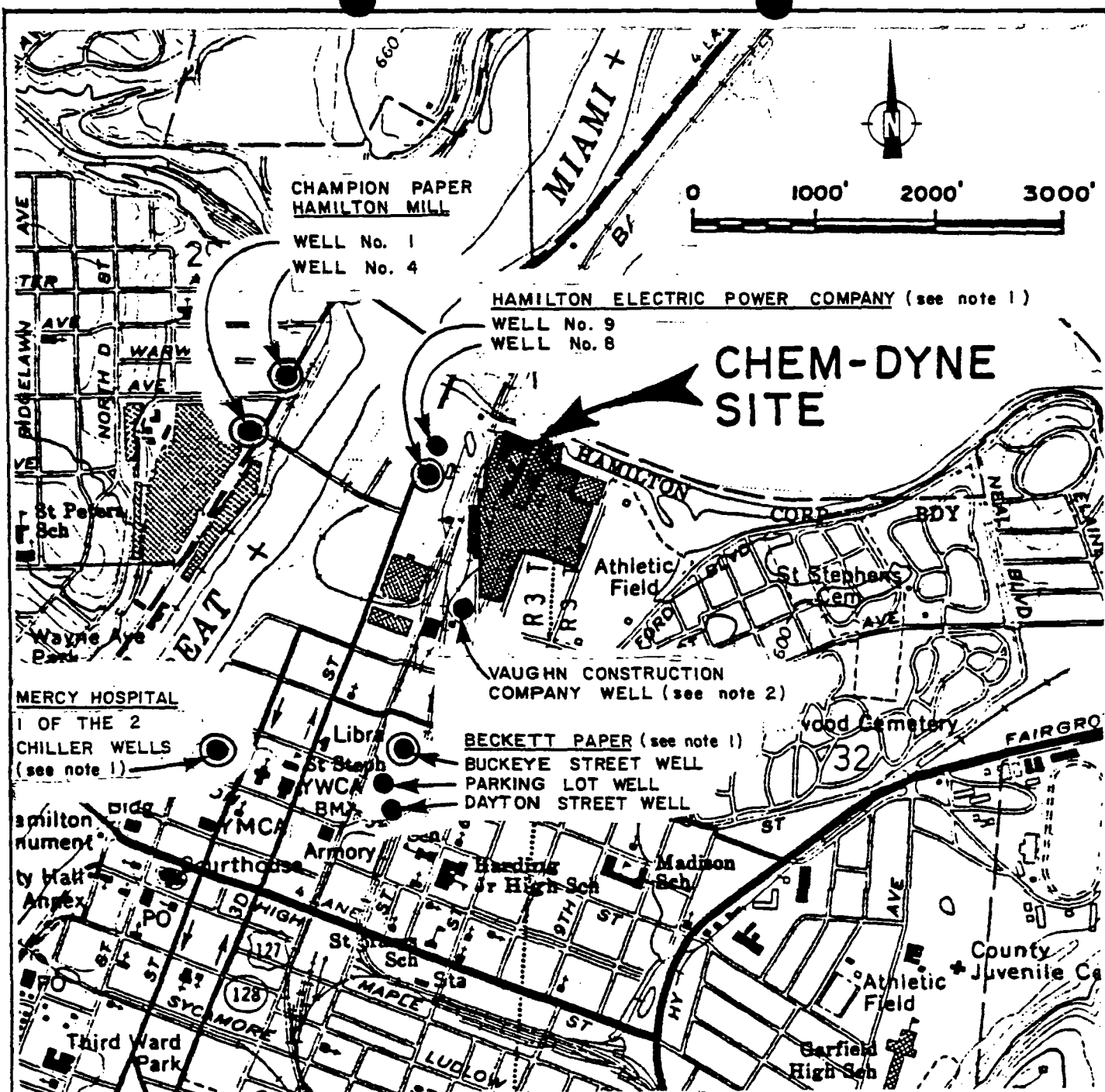


figure 15  
PRODUCTION WELLS TO BE MONITORED  
SETTLING DEFENDANTS  
REMEDIAL ACTION PLAN  
Chem-Dyne Site

frequency of water-level measurements shall be increased to a 15-day interval at locations within a 250-foot radius of the affected point, or points, for a minimum of three consecutive months.

#### Water Quality Monitoring

To determine baseline conditions, production wells at Champion Paper Company and the City of Hamilton Power Plant shall be sampled for two consecutive months prior to the commencement of system operations and analyzed for all priority pollutant organic compounds. In instances where concentrations for two consecutive samplings are significantly different, the wells in question will be sampled for a third month. The average concentrations from these two or three sampling events at each well will be considered to represent baseline conditions in that well.

Background conditions in the production wells at Beckett Paper Co. and Mercy Hospital and at the three compliance points to the south and southwest of the Site will be determined in accordance with 40 CFR § 264.97.

Compliance point monitoring wells will be sampled semi-annually for priority pollutant volatile organic compounds and annually for all other priority pollutant

organic compounds during the years of system operation and for five years after termination.

All monitoring wells and extraction wells at and inside the 0.1 ppm total priority pollutant VOC isopleth will be sampled quarterly for priority pollutant volatile organic compounds during the last three years of operation of the system. Upon termination of the system, these wells will be sampled quarterly for the first two years and semi-annually for the remaining three years for priority pollutant volatile organic compounds.

All monitoring wells beyond the 0.1 ppm total priority pollutant VOC isopleth will be sampled annually for the duration of the system operation and for five years after termination for priority pollutant organic compounds.

During and for five years after termination of the system operation the frequency of sampling at compliance point monitoring wells will be increased to quarterly for a minimum of six months if at any time the concentrations of priority pollutant organic compounds exceed the applicable compliance standards discussed in the data evaluation section which follows.

During and for five years after the termination of the system operation, the frequency of sampling at monitoring wells outside the plume boundary will be increased to quarterly for a minimum of six months if at any time the concentrations of total priority pollutant VOCs exceeds 0.1 ppm. If this occurs during two consecutive sampling events, an evaluation will be made to determine the significance of this occurrence.

Two production wells at Champion Paper Company (wells #1 and #4) and one production well each, as accessible, at the City of Hamilton Electric Power Company, Mercy Hospital, and Beckett Paper Company (see Figure 15) will be sampled annually for total priority pollutant VOCs during and for five years after the termination of system operation. If a new intermediate depth well, well G-14 (see Figure 8), to be installed by the Settling Defendants near the Vaughn Construction Company production well (see Figure 15) shows significant contamination, this production well will also be sampled at the same frequency and for the same compounds as the other production wells.

Analytical methods to be used in analyzing water samples will be as follows:

- i) Priority pollutant volatile organic compounds by EPA Methods 601 and 602.

ii) Priority pollutant base/neutral and acid extractable organic compounds by EPA Method 625.

iii) Priority pollutant pesticides by EPA Method 608.

#### Data Evaluation

Water-quality data obtained from sampling events prior to the implementation or commencement of the extraction/injection system will be evaluated to finalize the system design and to establish appropriate baseline conditions and background levels at the specified production and compliance monitoring wells.

The design of the proposed extraction/injection system is based on several assumptions concerning the behavior of contaminants in a hydrogeologic environment. Monitoring data may indicate that, from time to time, adjustments are required to optimize the performance and efficiency of the system. Such adjustments to the system may include the addition or the removal from service of extraction and/or injection wells and changes in extraction and/or injection rates. To provide a basis for any adjustments that may be required, water-level and water-quality data obtained under the regular monitoring schedule and from special sampling events will be evaluated periodically.

These evaluations will also be used to determine whether system operations can be terminated at the end of the 10-year operation period or at any time thereafter. The performance goals for terminating the system operations will be the attainment in each monitoring and extraction well within the defined plume boundary of both (a) a concentration of not more than 0.1 ppm in total priority pollutant VOCs; and (b) an effectively constant total priority pollutant VOC concentration.

The determination of whether the concentration of total priority pollutant VOCs within the plume has become effectively constant will be made on a well-by-well basis at all extraction and chemical monitoring wells on and within the plume boundary. The determination of whether the concentration at a well is effectively constant will be made as follows:

- i) Samples will be taken at locations and frequencies stated in the previous section on water-quality monitoring.
- ii) The data from the 12 most recent samples will be examined and totals for priority pollutant VOCs computed and plotted as data points.



- iii) If the curve suggested by these data points is linear, then a straight line using a least squares regression model will be fitted to the data and the slope of the fitted curve will be computed as the estimated slope.
- iv) If the data points suggest a non-linear form, then an exponential curve using a least squares regression model will be fitted to the data. The estimated slope will be the first derivative of the curve at a value of time half way between the last two sample points.
- v) The estimated slope shall be deemed to be zero if
  - (a) that slope is less than or equal to zero and greater than or equal to negative 0.02 ppm/year, and (b) the rate of change of that slope is equal to zero or indicates a continuously decreasing concentration.
- vi) If the mean concentration in a well is less than or equal to 0.02 ppm and the above procedure results in a positive slope, then the 95 percent confidence interval will be calculated for the slope of the regression line; if a zero slope is within this confidence interval then the estimated slope shall be deemed to be zero.
- vii) The concentration at a well will be deemed to be effectively constant if the estimated slope is deemed to be zero.

If after ten years of operation, or at any time thereafter, the concentration of total priority pollutant VOCs has become effectively constant in each monitoring and extraction well within the defined plume boundary at a level higher than 0.1 ppm, the system operations will be terminated if both (a) substantial compliance with the performance goal of 0.1 ppm total priority pollutant VOCs has been achieved (considering factors which may include but are not limited to variations in permeability which lead to persistence of high concentrations in certain wells, and averaging of concentrations in wells); and (b) periodic evaluation of data during system operation indicates that no reasonable modification or adjustment to the system will produce significant improvement within a total operation period of 20 years.

If at the commencement of the twentieth year of operation both performance goals are not met, the Settling Parties will evaluate whether further operation and modification would be cost-effective. If the Parties agree that further operation would not be cost-effective, the system may be terminated. If the Parties disagree as to the necessity for further operation, the issue may be submitted to the United States District Court in Cincinnati

(hereinafter "the Court") for a decision as to whether to terminate. Pending a decision by the Court, the system will continue to be operated.

Monitoring data and predictive models based on these data will also be used to determine whether the Site is and will remain in compliance with the goals and standards of the Consent Decree. Thus, adjustments to the extraction/injection system may be necessary to avoid non-compliance with these criteria.

The three sets of compliance monitoring points south and southwest of the Site (see Figure 14) will be considered in compliance if the higher of (a) water-quality criteria for protection of human health (based on  $10^{-6}$  risk); or (b) background conditions, as determined in accordance with 40 CFR § 264.97; or (c) detection limits attainable using the analytical methods prescribed earlier, have not been exceeded during and for five years after the termination of system operations.

At the three sets of compliance points to the west of the Site (see Figure 14):

- i) The concentrations of total priority pollutant VOCs will not exceed 0.1 ppm during the operation of the system and for a period of five years after termination.

ii) During the operation of the system the concentration of other priority pollutant organic compounds shall not exceed the maximum concentration of these compounds that are found prior to the commencement of the system operation in any one of the monitoring wells within the area shown Figure 16.

iii) For five years after termination of the system operation, the concentration of other priority pollutant organic compounds shall not exceed the maximum concentration of these compounds that are found at the commencement or termination of the system operation in any one of the monitoring wells within the area shown on Figure 16.

For five years after termination of system operations, within the defined plume boundary, the concentrations of total priority pollutant VOCs at termination of system operations, will be maintained effectively at the level existing within the plume immediately prior to system shut down.

To evaluate compliance with this criterion, water-quality data collected from all regularly monitored wells on and within the defined plume at the termination of extraction/injection operation will be statistically analyzed as follows:

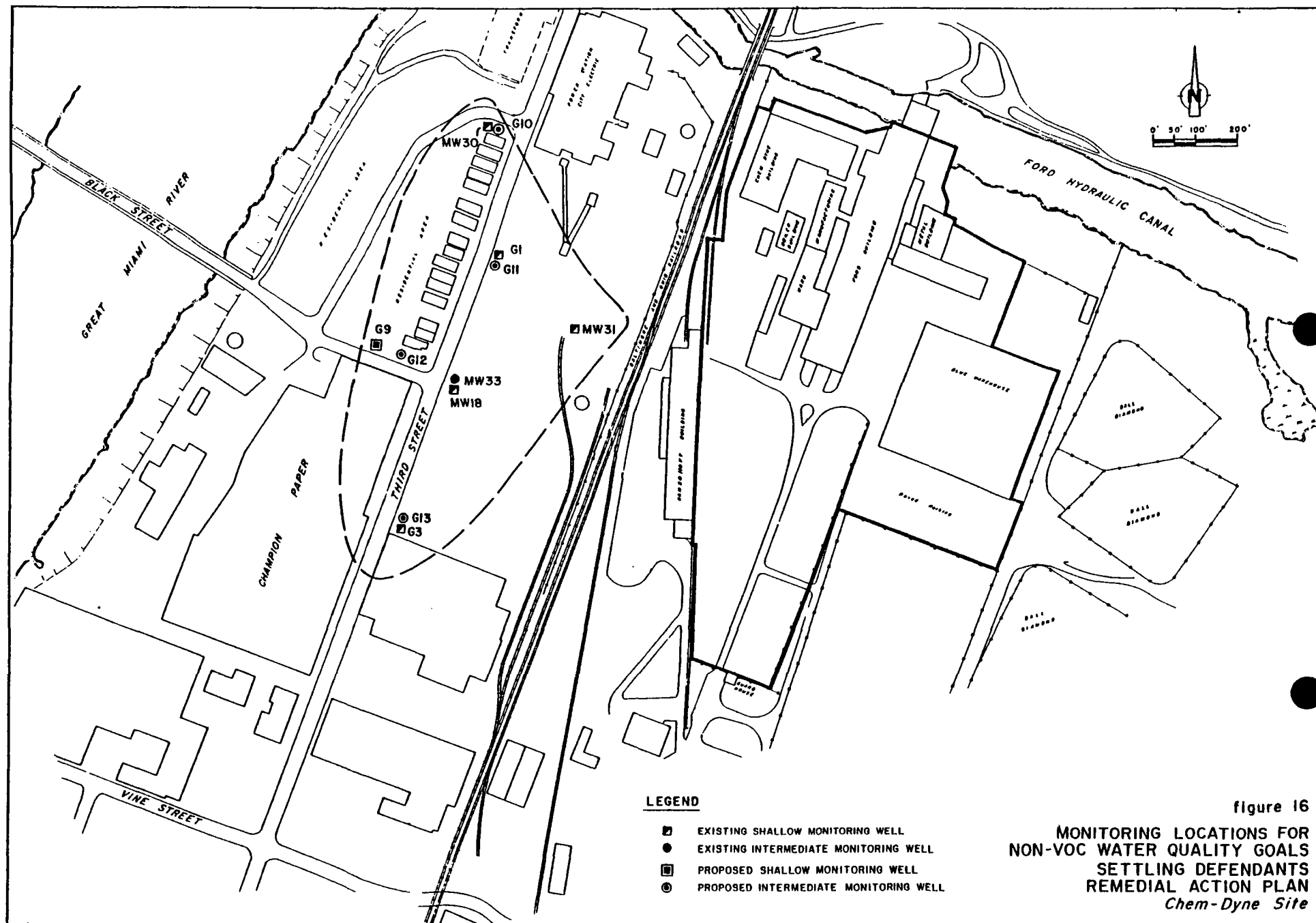


figure 16

- i) Total priority pollutant VOC concentrations for the last sampling event collected from all monitoring and extraction wells within and on the plume boundary at the termination of the system will be statistically analyzed to determine the mean value and standard deviation of these data. This shall be considered the baseline value.
- ii) The results of any sampling event of the same wells in (i) above after termination of the system shall be also statistically analyzed to determine the mean value and standard deviation of total priority pollutant VOC concentrations.
- iii) A statistical test will be made to determine if the variance of the sampling event in (ii) above is statistically equal to the variance of the baseline value calculated in (i) above.
- iv) Statistical tests will be carried out to determine if the data from the sampling events referred to in items (i) and (ii) above are normally distributed.
- v) If the variances are statistically equal as determined in (iii) above, and the data are normally distributed as determined in (iv) above, a t-Test will be made to determine whether the mean value of the sampling event in (ii) above is significantly different from the

baseline mean value calculated in (i) above at a five percent level of significance.

- vi) If the variances are not statistically equal as determined in (iii) above and/or the data are not normally distributed as determined in (iv) above, then an appropriate statistical test agreed upon by the Parties shall be used to determine whether the mean value of the sampling event in (ii) above is significantly different from the baseline mean value calculated in (i) above at a five percent level of significance.
- vii) If the test in (v) or (vi) above indicate that the mean value calculated in (ii) above is not significantly different from the baseline mean value calculated in (i) above, the conditions of Subparagraph 2.10 in the Consent Decree will be considered to have been satisfied.
- viii) If a significant increase in the mean value is determined in (v) or (vi) above, a second round of sampling will be conducted within 30 days of receipt of the results of the first round of sampling.
- ix) If the results of the second round of sampling confirm the significant increase in the mean value calculated in accordance with (v) or (vi) above, corrective action will be taken by the Settling Defendants.

The production wells at Mercy Hospital and Beckett Paper Company will continue to be at least in substantial compliance with background conditions, and the production wells at the City of Hamilton Electric Power Company and Champion Paper Company will continue to be at least in substantial compliance with baseline conditions, taking into account only the potential for temporary and insignificant degradation due to hydraulic proximity to the Chem-Dyne Site and contamination from sources other than the Chem-Dyne Site. Predictive simulations based on a predictive model developed and calibrated with data compiled during the implementation of the extraction/injection operation, and mutually agreed upon by the Parties, shall be used along with actual monitoring data to assess whether compliance with these standards has been and will be achieved.

In the event of non-compliance at the six compliance points or at the production wells during the operation of the system and after termination, or within the plume after termination, the Parties will make an evaluation to determine whether the non-compliance is significant or not significant. This evaluation will consider whether the non-compliance is due to contamination from the Site or from other sources. If the non-compliance is the result of Site contamination and if the non-compliance is deemed significant



by the United States or Ohio, the Settling Defendants will submit a plan for further corrective action within 90 days after notice from the United States or Ohio. This plan will consider whether adjustments to or reactivation of the extraction/injection system would be an appropriate and justified remedy or whether other cost-effective measures would be appropriate.

#### 3.3.4 Contingency Measures

The possible need for adjustments to the extraction/injection system, including the extension of the period of operation beyond ten years, were discussed earlier.

As a contingency measure for increasing the number of extraction and/or injection wells and for extending the period of system operation, funding is provided for the addition of wells and for the extension of the operation period.

A contingency measure for increasing the extraction rate is provided by the design of the treatment facility. As discussed in Section 4, the facility is designed to treat 600 gpm of water. This design provides for an increase of 50 gpm in the extraction rate. Also, even at the start of operation, it is anticipated by the Settling Defendants that up to 350 gpm can be discharged into the Ford Hydraulic Canal without exceeding water quality criteria. The extraction/injection system is designed for an initial

net extraction rate of 200 gpm (550 gpm extraction less 350 gpm injection). Thus, if required, the net extraction rate can be initially increased by as much as 150 gpm, up to 350 gpm, by increasing the extraction rate or decreasing the injection rate, or a combination of both. As the quality of the extracted groundwater improves and meets the criteria for a larger discharge into the Ford Hydraulic Canal, an increase in the net extraction rate larger than 150 gpm would be feasible, if required.

Pursuant to the terms of Paragraph XI.B of the Consent Decree, certain monies have been paid to the State of Ohio as reimbursement of response costs and natural resources damages and other costs and damages. In consideration of these payments, the State assumes all responsibility for additional remedial action relating to the City of Hamilton south well field if any such action is ever necessitated by virtue of contaminants from the Chem-Dyne Site, and the State agrees to indemnify and hold harmless the Settling Defendants if any claim cognizable under Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) relating to or arising from the Chem-Dyne Site is ever asserted against the Settling Defendants with respect to the City of Hamilton south well field. Nothing in this paragraph shall be construed as a release or covenant not to sue by the United States in favour of the Settling Defendants with respect to any such claim.

## 4.0 GROUNDWATER TREATMENT

### 4.1 INTRODUCTION

As discussed in Section 3 of this report, remedial investigations to date at the Site have determined that the groundwater contaminants are primarily priority pollutant volatile organic compounds (VOCs). The Remedial Action Plan will provide a hydraulic containment system consisting of a series of extraction and injection wells to contain and remove the plume of contaminants from the aquifer. Contaminated groundwater which is pumped from the aquifer will be treated prior to injection or discharge. The plan for treatment of contaminated groundwater and discharge of the treated water are described in this section. The conceptual design presented herein is based on available groundwater quality data and treatment process capabilities. No treatment process should be designed without a thorough groundwater characterization and treatability study to define treatability and to establish design criteria. This is especially important for the specific groundwater in question because of the variable concentrations and properties of priority pollutant VOCs contained therein.

#### 4.2 RECOMMENDED PLAN

After a thorough review of the treatment objectives and available treatment alternatives, air stripping was selected as the most feasible means for removing the priority pollutant VOCs present in the extracted groundwater. The initial treatment system will consist of an air stripping tower designed for a groundwater flow of 600 gpm. Emissions from the air stripping tower will be treated with a vapor phase carbon adsorption sytem.

The impacts of the treatment process and discharge alternatives were reviewed by Settling Defendants using predictive air and water quality modeling studies. Based on this modeling, the release of untreated air emissions from the stripping tower into the atmosphere will not exceed either the threshold odor concentration of any of the priority pollutant VOCs contained in the contaminated groundwater or the concentration levels which might cause adverse health effects. The modeling also showed that a discharge of up to 350 gpm of air stripped groundwater to the Ford Hydraulic Canal will not result in priority pollutant VOC concentrations that exceed water quality criteria at the end of the mixing zone at the critical low stream flow of 300 cubic feet per second (cfs) in the Ford Hydraulic Canal. Higher stream flow in the Ford Hydraulic Canal and/or lower groundwater priority pollutant VOC concentrations than those

initially anticipated (see Table 4-1) will allow treated effluent discharge rates higher than 350 gpm. For example, the calculations predicted that, within seven months, the groundwater priority pollutant VOC concentrations will be reduced to levels whereby the total design flow of 600 gpm can be treated and discharged to the Ford Hydraulic Canal at the critical low stream flow with no water quality violations.

#### 4.3 REMEDIAL ACTION

The following is a conceptual design for the groundwater treatment process to be implemented by the Remedial Action Plan. Table 4-1 shows the concentrations of priority pollutant VOCs which are anticipated to be in the treatment plant influent at the start of operation.

##### Groundwater Collection/Equalization

The groundwater extraction wells will discharge into a gravity collection system of concrete pipe. Flow will be routed to an in-ground equalization tank.

TABLE 4-1

INITIAL INFLUENT VOC CONCENTRATION USED IN  
TREATMENT TECHNOLOGY SIZING AND  
PREDICTIVE MODELING

Compound	Estimated Initial Concentration in Treatment Plant Influent (ppm)
Trans-1,2-Dichloroethylene	1.99
Trichloroethylene	1.46
Chloroform	0.82
1,2-dichloroethane	0.64
1,1,2-Trichloroethane	0.56
Toluene	0.54
Vinyl Chloride	0.39
1,1,2,2-Tetrachloroethane	0.36
Chloroethane	0.34
Benzene	0.29
Tetrachloroethylene	0.25
1,1,1-Trichloroethane	0.24
Carbon Tetrachloride	0.21
Methylene Chloride	0.16
1,1-Dichloroethylene	0.16
1,1-Dichloroethane	0.11
Chlorobenzene	0.09
Ethylbenzene	0.05
1,2-Dichloropropane	0.01
Total Priority Pollutant VOCs	8.67

## Air Stripping

The design basis for the air stripping system will be an average priority pollutant VOC removal rate of at least 95 percent. Calculations based on a design flow of 600 gpm and the estimated priority pollutant VOC concentrations shown on Table 4-1 resulted in the following air stripping tower design parameters.

### Design Parameters:

Water flow rate - 600 gpm

Tower diameter - 5 feet

Packing depth - 30 feet

Packing type - polypropylene

Air rate - 3,000 cfm

Air-water ratio - 37:1

Material - fiberglass reinforced polyester (FRP)

These design parameters are subject to change according to the findings of the treatability studies. Moreover, detailed design considerations may conclude that a modular design (two or more smaller units) may offer operating flexibility over a single unit. Also, a lower air flow may reduce the vapor phase carbon usage without sacrificing priority pollutant VOC removal efficiencies.

### Vapor Phase Carbon Adsorption

The Plan provides for a vapor phase carbon adsorption system for treatment of air stripper gaseous emissions. On the basis of a groundwater flow rate of 600 gpm, a total priority pollutant VOC groundwater concentration of 8.67 ppm, and 100 percent stripper efficiency, Settling Defendants have calculated that the mass of priority pollutant VOC emissions from the stripper will total approximately 62 lb/d. Calculations show an estimated carbon loading of approximately 700 lb/d to treat 62 lb VOC/d in the vapor phase. An on-Site carbon regeneration system will be provided.

The on-Site vapor phase carbon adsorption system will consist of two carbon tanks, each containing approximately 3,000 pounds of vapor phase granular carbon. The regeneration equipment will consist of a condenser, decanter and a steam generator. Auxiliary equipment will include an air heater, automatic valves, dampers, and process controls. It is anticipated by the Settling Defendants that approximately one pound of steam per pound of carbon will be required during carbon regeneration. Combining this steam with the 62 lb VOC/d and assuming a density of 8.34 lb/gal, approximately 100 gallons per day of condensate will be generated.



The condensate disposal practice will be to allow the partitioning of the organic and aqueous phases in the decantor, dispose of the organic phase at an off-Site solvent recovery facility approved by USEPA, and recycle the aqueous phase back into the air stripper, if the viability of this disposal method can be demonstrated during treatability studies and/or full-scale treatment operations. If this practice is not feasible, the waste material will require incineration or landfilling, following solidification, at a USEPA approved hazardous waste facility.

#### Treated Groundwater Discharge

Figure 17 presents a schematic diagram illustrating the groundwater treatment process. A portion of the treated groundwater will be injected into the contaminated aquifer while the remainder will be discharged into the Great Miami River via the Ford Hydraulic Canal. Initially, it is anticipated that approximately 200 gpm of the extracted groundwater flow will be discharged into the Ford Hydraulic Canal, and 350 gpm will be injected back into the contaminated aquifer. As the quality of the treated groundwater improves, a higher percentage of effluent can be discharged to the Ford Hydraulic Canal.

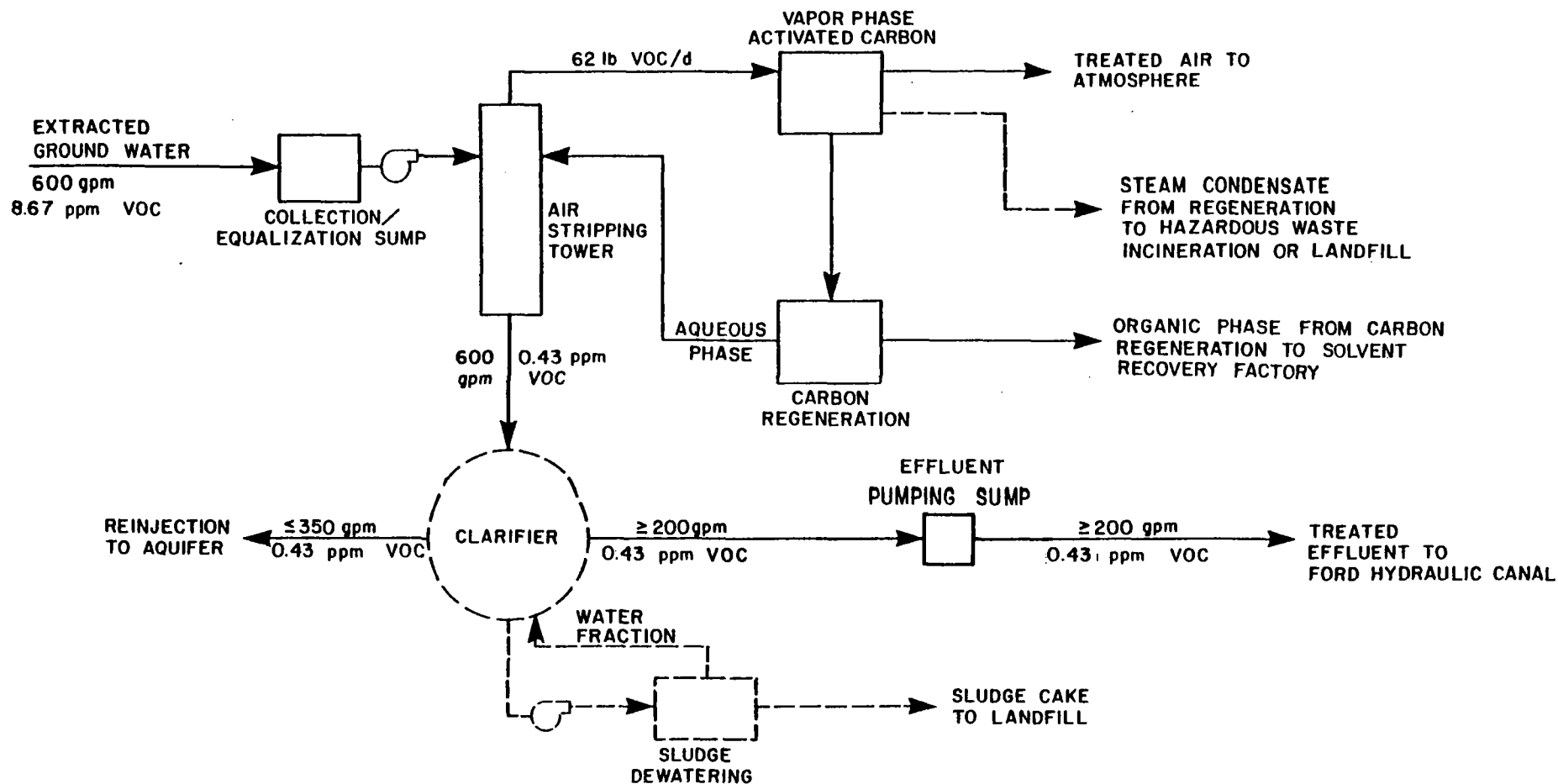


figure 17  
SCHEMATIC FLOW DIAGRAM  
GROUNDWATER TREATMENT PROCESS  
SETTLING DEFENDANTS  
REMEDIAL ACTION PLAN  
*Chem-Dyne Site*

#### 4.4 SAFETY FACTORS/CONTINGENCIES

There are a number of safety factors and contingencies built into the groundwater treatment plan. These are described below.

##### Flowrates

The groundwater extraction/injection system in Section 3 calls for a combined total of 550 gpm of groundwater to be extracted from shallow and intermediate depth extraction wells. The system also calls for an initial injection rate of 350 gpm of treated groundwater back into the aquifer, with the remaining 200 gpm to be discharged to the Ford Hydraulic Canal. This will result in a net extraction rate of 200 gpm.

The groundwater treatment system is designed for a flow of 600 gpm. Based on modelling projections, Settling Defendants anticipate that up to 350 gpm can be discharged to the Ford Hydraulic Canal at critical low stream flow without violating water quality standards. Thus, the potential net extraction rate of 350 gpm is 75 percent greater than the planned initial net extraction rate of 200 gpm.

The 5-foot diameter air stripping tower will provide the ability to handle flowrates up to approximately 1,000 gpm with only minor variations in treatment performance.

#### Contaminant Concentrations

If individual contaminant concentrations are found to be higher than those shown on Table 4-1 such that violations of surface water quality criteria may result, the concentrations can be reduced by selectively controlling the groundwater extraction rates from the specific extraction well(s) which is contributing the highest concentration of the specific contaminant(s) in question. All such adjustments shall be made in a manner which maintains compliance with performance standards as specified in the Consent Decree. In addition, the 30-foot depth of packing in the stripping tower should be sufficiently high to provide satisfactory priority pollutant VOC removal rates even if individual compounds vary in concentration from those shown in Table 4-1.

#### Ford Hydraulic Canal Stream Flows

As noted previously, all predictive modeling and surface water quality impacts are based on the critical low flow of 300 cfs in the Ford Hydraulic Canal. Thus,

during most of each year, the water quality impacts of the treated groundwater discharge to the Ford Hydraulic Canal will be substantially less than that predicted herein.

#### Treatment Contingencies

Although the groundwater treatment plan is designed to produce effluent qualities which will not violate either air or water-quality criteria, provision for adding additional treatment capability is included. Specifically, the Plan contains a contingency for adding water phase activated carbon as a treatment process, following air stripping, and prior to discharge to the Ford Hydraulic Canal. This contingency will be implemented if the air stripping process is not capable of removing the required amount of priority pollutant VOC compounds, or if priority pollutant non-VOC compounds are found to exist in the groundwater at concentrations which will cause violations of water-quality criteria. A contingency plan will be prepared as a portion of the Remedial Design for the event that the groundwater treatment system is demonstrated to be a source of nuisance odors.

The metals contained in the extracted groundwater flow to the stripping tower, particularly iron and manganese, are likely to oxidize and precipitate out in the stripping tower. If these metal precipitates carry

through in the effluent from the stripping tower, they may cause well screen and soil pore plugging problems if the effluent is reinjected into the aquifer. If the treatability studies show that metals will be a potential problem, a clarifier to remove the metals will be provided. The treatability studies will also be used to determine the need for chemicals/polymers to aid in the precipitation process, the need for and type of sludge dewatering equipment, and the required sludge disposal method.

The Settling Defendants anticipate that the air stripping process will provide an effluent quality acceptable for direct discharge to the Ford Hydraulic Canal. If it is necessary to hold and test the treated effluent on certain occasions (e.g. during startup operations), prior to releasing it to the Ford Hydraulic Canal, two 50,000-gallon holding/test tanks will be provided. At the initial planned discharge rate to the Ford Canal of 200 gpm, holding capacity is in excess of eight hours of system operation.

The Plan calls for disposal of the waste condensate from the steam regeneration of vapor phase carbon by partitioning and recycling of the aqueous phase. If this cannot be accomplished, the full volume of condensate will be disposed of by incineration or landfilling at a hazardous waste facility approved by USEPA.

#### 4.5 MONITORING

To ensure that the integrity of the environment is being maintained, that the residents of Hamilton, Ohio and users of the Great Miami River are not being endangered, and to assess the performance of the treatment facility, the following monitoring schedule will be implemented.

##### Flow Measurement

- i) Continuous measurement of influent flow to the groundwater treatment system.
- ii) Continuous measurement of treated effluent flow discharged to the Ford Hydraulic Canal.

##### Treated Effluent Analyses

The frequencies and types of analysis for treatment plant effluent monitoring are detailed in Table 4-2. Since the effluent monitoring will be ultimately dictated by the NPDES permit for treated effluent discharge to the Ford Hydraulic Canal, modifications to the assumed monitoring schedule may be necessary.

TABLE 4-2

ANALYSIS OF TREATMENT PLANT EFFLUENT

	Priority Pollutant <u>Volatile Organics<sup>(1)</sup></u>	Priority Pollutant <u>Organics<sup>(2)</sup></u>	Priority Pollutant <u>Heavy Metals<sup>(3)</sup></u>
<u>Year 1</u>			
Month 1	twice weekly	weekly	weekly
Months 2 to 12	weekly	monthly	quarterly
<u>Year 2 Onward</u>	monthly	quarterly	semi-annually

## Notes:

- (1) EPA Methods 601 and 602
- (2) EPA Methods 624, 625 and 608
- (3) Atomic Absorption, Graphite Furnace



## Ford Hydraulic Canal Analyses

The primary sampling location for the Ford Hydraulic Canal will be at the discharge end of the mixing zone. However, samples will be taken periodically upstream of the point of effluent discharge. The frequencies and types of analysis for Ford Hydraulic Canal monitoring are detailed in Table 4-3.

## Biological Monitoring of Fish

Two species of fish will be monitored for priority and non-priority pollutant compounds by GC/MS scan. Samples will be collected both upstream and downstream of the treated effluent discharge into the Ford Hydraulic Canal and analyzed for:

- i) One whole body.
- ii) One skinned fillet.
- iii) One whole composite.

The above monitoring will be conducted for each renewal of the NPDES permit.

TABLE 4-3

ANALYSIS OF FORD HYDRAULIC CANAL

	<u>Priority Pollutant Organics<sup>(1)</sup></u>	<u>Priority Pollutants Heavy Metals<sup>(2)</sup></u>
<u>Year 1</u>		
End of Mixing Zone	quarterly	quarterly
Upstream	quarterly	quarterly
<u>Year 2 Onward</u>		
End of Mixing Zone	semi-annually	semi-annually
Upstream	semi-annually	semi-annually

## Notes:

(1) EPA Methods 624, 625 and 608

(2) Atomic Absorption, Graphite Furnace

### Bioassay Toxicity

Bioassays using the treated effluent and four different dilutions (56, 32, 18 and 10 percent are typical) of the effluent will be conducted with fish and invertebrate according to the following schedule:

- i) Year 1 - quarterly.
- ii) Thereafter - at each renewal of the NPDES permit (assumed every five years).

### Air Stripper Emissions

Total priority pollutant VOCs in the air emissions from the air stripper/vapor phase carbon system will be monitored annually or as provided in the Permit to Operate. The method of analysis will be EPA Method 624.

## 5.0 UNSATURATED SOIL REGIME

### 5.1 GENERAL

Previous remedial investigations at the Site have identified that surficial soils covering the entire Site south of the buildings have been contaminated as a result of former Site activities. In addition, soils throughout the unsaturated zone, from ground surface to the water table, contain priority pollutants. The presence of this soil contamination poses a potential threat to public health and the environment through the following exposure routes:

- i) Direct contact with hazardous surficial Site contaminants by humans, animals or wildlife.
- ii) Migration of contaminated sediments from the Site transported by surface water runoff.
- iii) Migration of dissolved contaminants in surface water runoff having contact with surficial contaminated Site soils.
- iv) Uncontrolled volatilization of surficial volatile contaminants to the atmosphere.
- v) Migration of soluble contaminants downward through the unsaturated zone to the groundwater by precipitation infiltration transport.

As described in the following sections, the Remedial Action Plan provides for the mitigation of the potential hazards described above.

## 5.2 REMEDIAL ACTION

An engineered composite low-permeability cap will be constructed over the Site. Provision of a low-permeability composite cap over the Site will address the potential adverse impacts identified in Section 5.1 in the following manner:

- i) Elimination of direct contact with surficial contaminated soils.
- ii) Elimination of contaminated surface water runoff.
- iii) Elimination of contaminated surficial soil transport off-Site.
- iv) Reduction of infiltration through the contaminated soils of the Site which effectively prevents the migration rate of contaminants into the groundwater regime.
- v) Minimization of odors and uncontrolled volatilization of contaminants to the atmosphere.

The composite cap will be comprised of a synthetic and a clay liner separated by a sand drainage

blanket. A second sand drainage blanket will overlie the synthetic liner, in turn being overlain by fill and topsoil. A hardy vegetative cover will be established as final cover.

Since the composite cap is constructed of two materials of significantly different physical properties (clay and a synthetic liner), each liner's response to various conditions and stresses will also differ. This response difference is important to the long term integrity of the cap in that conditions or stresses which may deteriorate the effectiveness of one of the cap members, may not impact the other. As a result, a reduction in the effectiveness of one of the cap members does not necessarily result in a failure of the cap, as the second member acts as a safety net to protect against failure of the entire cap. A typical cross-section of the composite cap is presented in Figure 18.

The fill and topsoil layers above the synthetic liner system provide protection against puncture or rupture of the liner. This layer also ensures that the clay liner is below the depth of frost penetration which precludes detrimental effects of freeze-thaw cycling.

In addition to the above, the topsoil and fill layers aid significantly in stormwater management over the Site. Since precipitation infiltrates to some degree

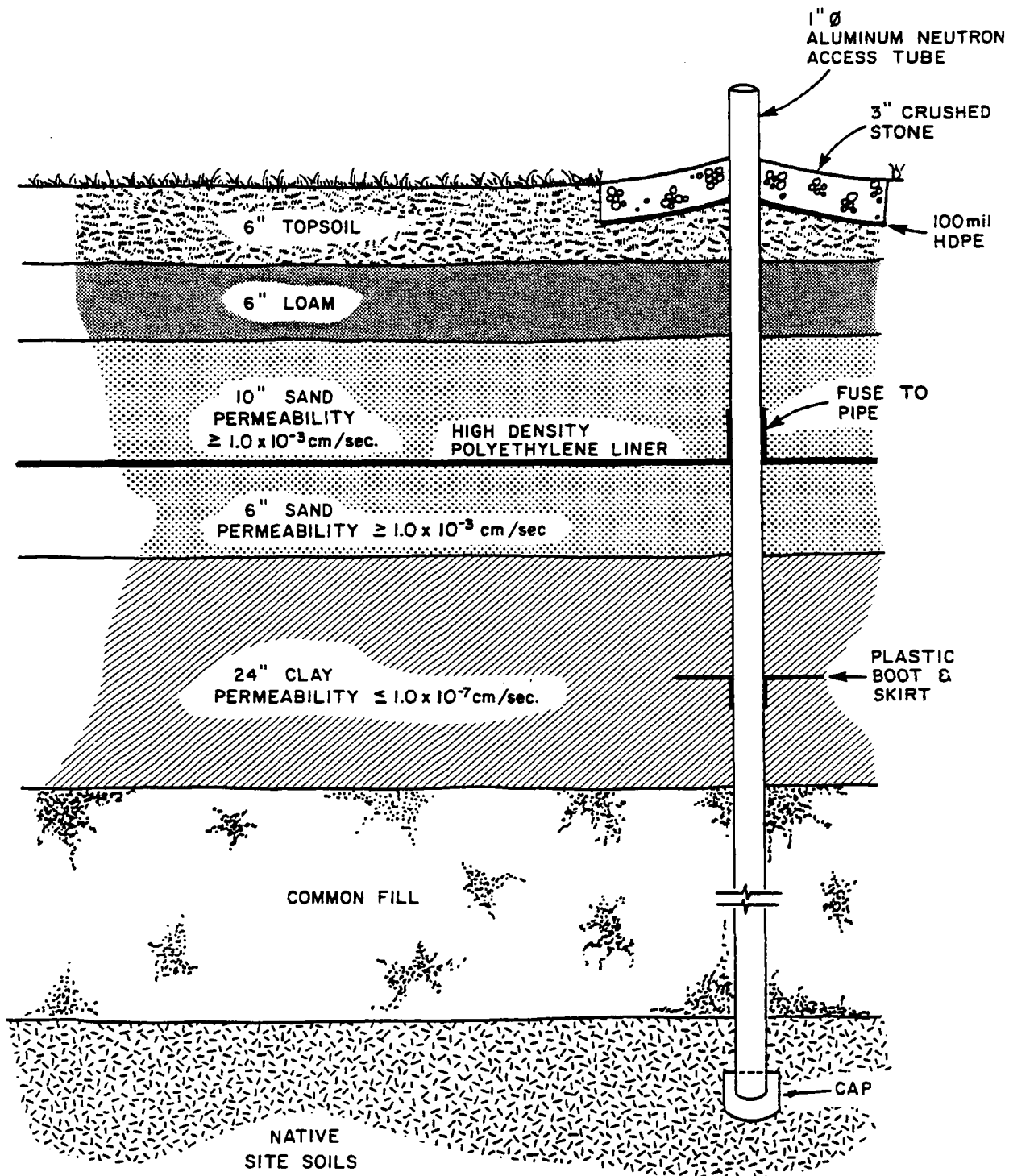


figure 18  
 COMPOSITE CAP CONSTRUCTION  
 SETTLING DEFENDANTS  
 REMEDIAL ACTION PLAN  
*Chem-Dyne Site*

the upper layers of the cap, a significant portion of the precipitation need not be handled as stormwater runoff. Natural phenomena, including evaporation and transpiration, thus control the release of a significant portion of the precipitation. The vegetative cover over the cap minimizes erosion of surface soil and subsequent maintenance.

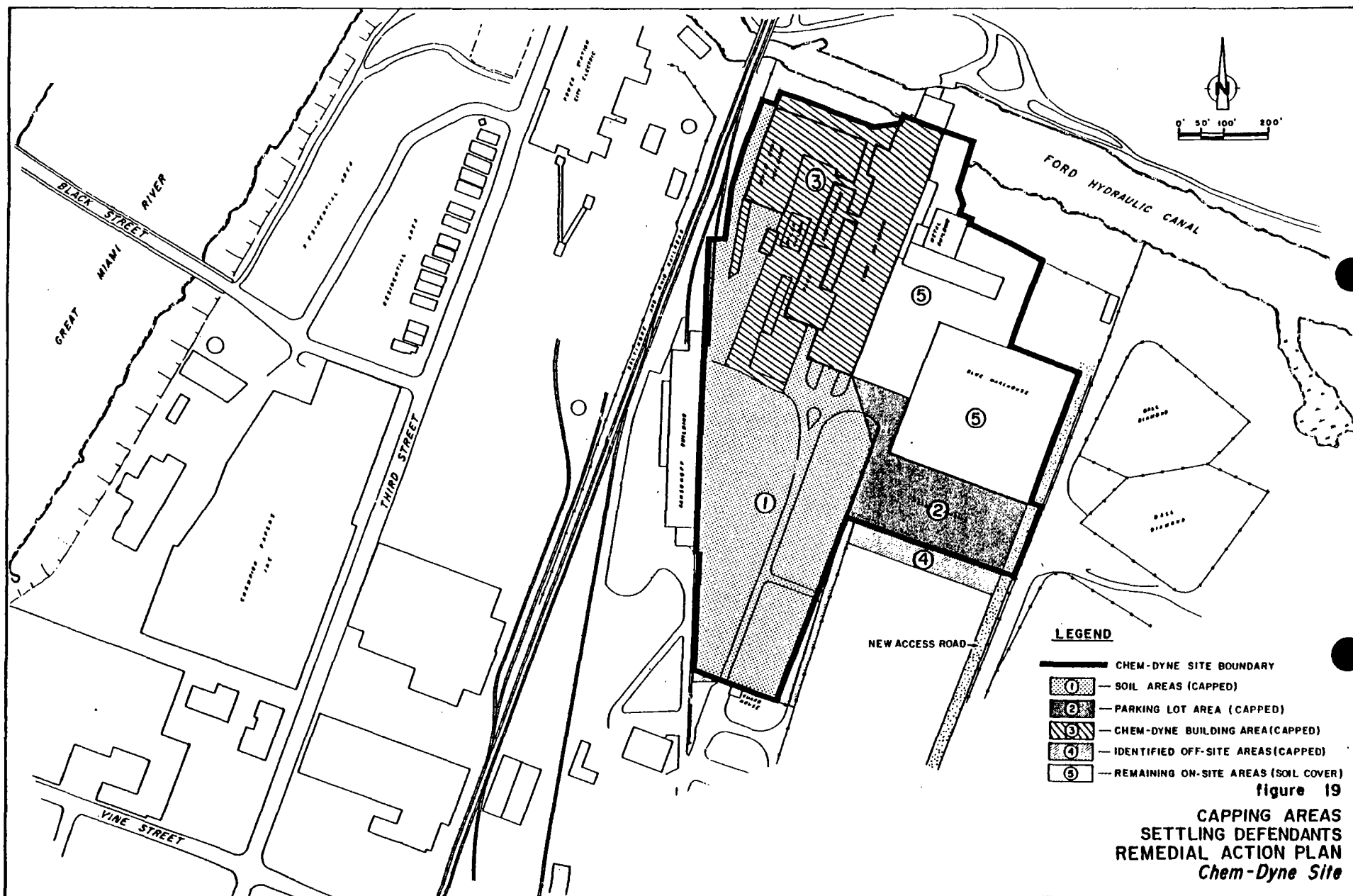
The 15-acre area of the Site to be capped as shown in Figure 19 will include the area south of the buildings (Area 1), the paved parking lot (Area 2), the building areas west of and including the Ford Building (Area 3), and the area immediately adjacent to the paved parking lot (Area 4). For the remainder of the Chem-Dyne Site (northeast sector, Area 5), a common fill cover is provided by the Plan over this area to effect efficient surface drainage.

### 5.3 DESCRIPTION OF COMPOSITE CAP PARAMETERS

The design parameters for the composite cap are as follows:

- i) The synthetic liner will be a minimum of 60-mil thickness.





**figure 19**  
**CAPPING AREAS**  
**SETTLING DEFENDANTS**  
**REMEDIAL ACTION PLAN**  
*Chem-Dyne Site*

- ii) The clay cap will be a minimum of 2-feet thick and have an in-place permeability of not greater than  $1.0 \times 10^{-7}$  cm/sec.
- iii) The sand drainage layers will have permeabilities of not less than  $1.0 \times 10^{-3}$  cm/sec.
- iv) Design contours of the Site will conform to the following slopes:
  - Minimum - 3% for general surface area
  - 1% for drainage swales
  - Maximum - that which will prevent soil loss by erosion to less than 2 tons per acre per year
- v) Disturbance of native Site soils will be minimized to the extent practicable during cap construction.

In addition, the Plan provides for the following:

- i) The Site will be proof rolled prior to initiation of cap construction. Areas of subsidence will be brought to grade with imported compacted fill.
- ii) Imported compacted fill will be used to contour the Site initially to design base grades.
- iii) Drainage swales will be surfaced with nursery sod to minimize surface runoff erosion.

- iv) Gas vents with activated carbon filters will be constructed through the cap to collect, treat and vent volatilized contaminants.
- v) Neutron tubes will be installed through the composite cap for moisture content determination in the soil layers.
- vi) The existing security fence will be replaced with a new industrial quality chain link security fence.

#### 5.4 MAINTENANCE

A maintenance plan to be implemented during the operation period of the groundwater extraction system and for a period of five years after termination of the system will be prepared as a portion of the Remedial Design. This plan will have the cap inspected on a regular basis for surficial erosion, burrowing animals, the presence of deep rooted weeds, vegetative distress and subsidence or settlement. Problems identified by the periodic inspections will be rectified immediately.

The Settling Defendants may terminate responsibility for operation and maintenance of the cap at any time after termination of the groundwater extraction system and five years of groundwater monitoring if they demonstrate to the USEPA and OEPA that either of the following two conditions are met:

- i) Maintenance and inspection of the cover, synthetic liner and clay components of the cap are no longer necessary for the continued maintenance and compliance with groundwater performance goals and standards and prevention of other routes of exposure to contamination.
  
- ii) Maintenance and inspection of the synthetic liner is no longer necessary for continued maintenance and compliance with groundwater performance goals and standards, and some other person or entity is willing and able to assume responsibility for such necessary maintenance for the cover and clay components of the cap.

## 5.5 MONITORING

### 5.5.1 Gas Vents

Gas vents will be sampled on a 3-month frequency for one year. Samples will be analyzed for selected volatile organic parameters in order to determine the changeout period of the gas vent carbon filters. If breakthrough of the filters has not occurred within one year, filters will be changed annually. Should breakthrough occur prior to one year, the changeout frequency for the filters will be the apparent breakthrough period less three months.

### 5.5.2 Cap Integrity

A total of 15 neutron access tubes will be installed through the composite cap to allow the determination of moisture content in each of the cap soil layers. Moisture content determinations will be made once in the spring and once in the fall each year for three-day periods immediately following a significant precipitation event for a minimum of ten years.

In addition, eight coupons, representative of the installed synthetic liner, will be placed adjacent to the Site beneath a cap identical to that constructed over the Site. One coupon will be retrieved each third year and tested for tensile strength (two axis), tear strength and rupture strength. Should either neutron monitoring or coupon testing indicate a potential or imminent increase in cap permeability, an evaluation will be made as to the effect of the permeability increase on the Site's ability to comply with performance goals for groundwater quality beneath the Site.

The Plan provides for the repair or replacement of the affected areas of the cap to prevent non-compliance.

## 6.0 EXCAVATION AND DISPOSAL OF SITE SOILS

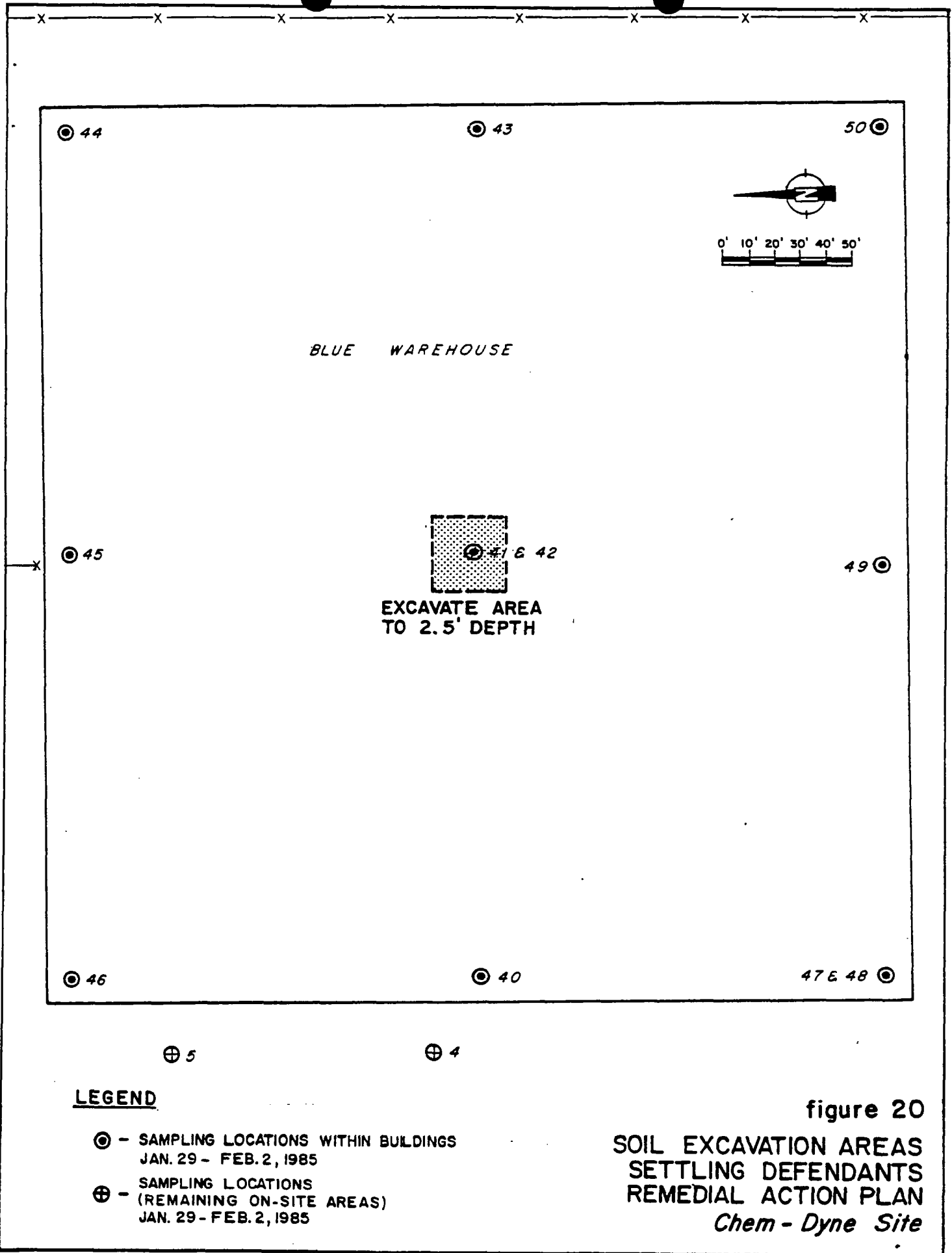
### 6.1 GENERAL

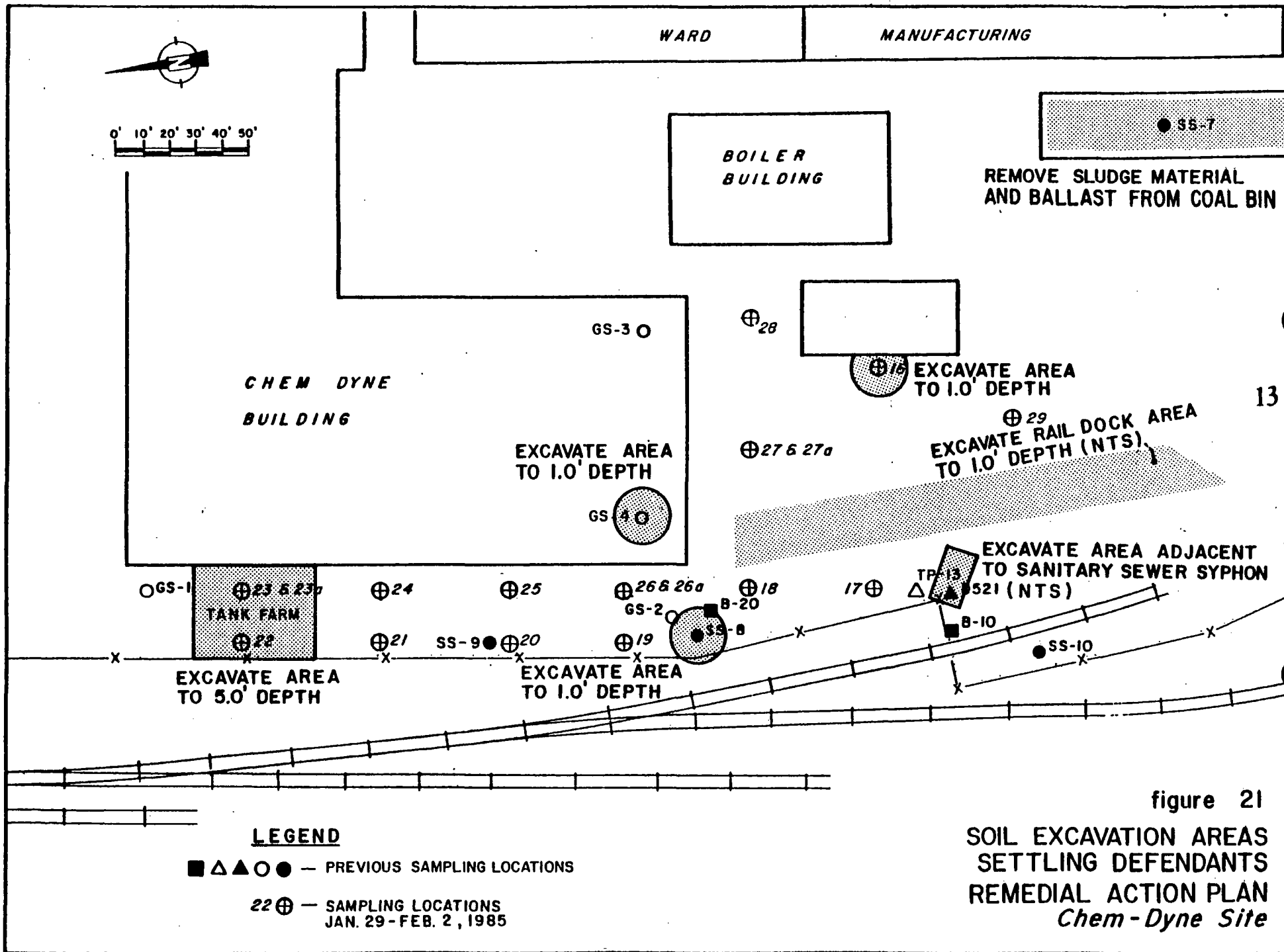
Investigative sampling and analysis at the Site have identified limited areas of surficial soils containing concentrations of contaminants which warrant excavation. These soils will be excavated and removed, providing that excavation and removal are cost-effective, and removal is to a site approved by USEPA.

### 6.2 REMEDIAL ACTION

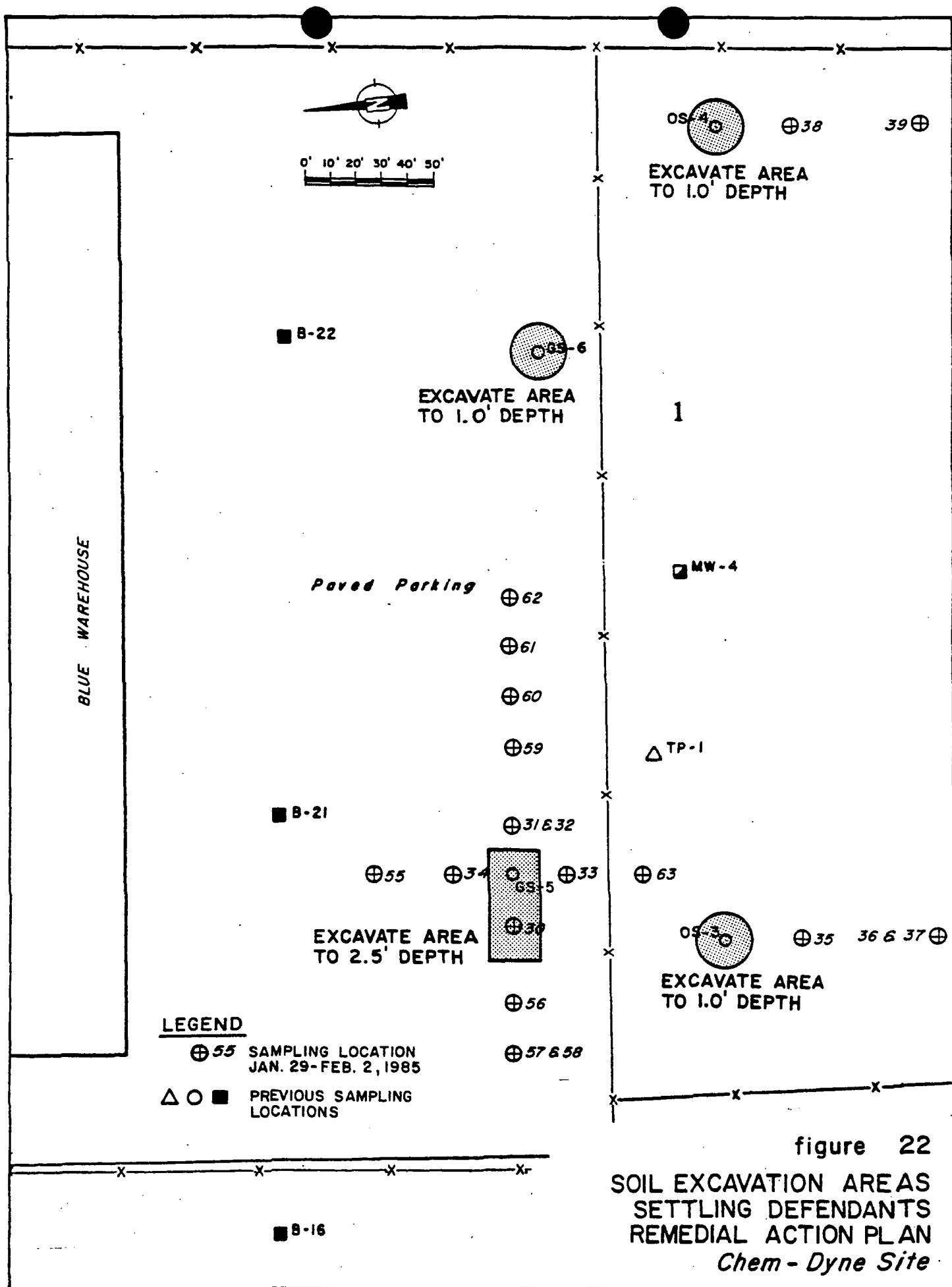
The Plan provides for the excavation of Site materials from the following areas and removal to a site approved by USEPA:

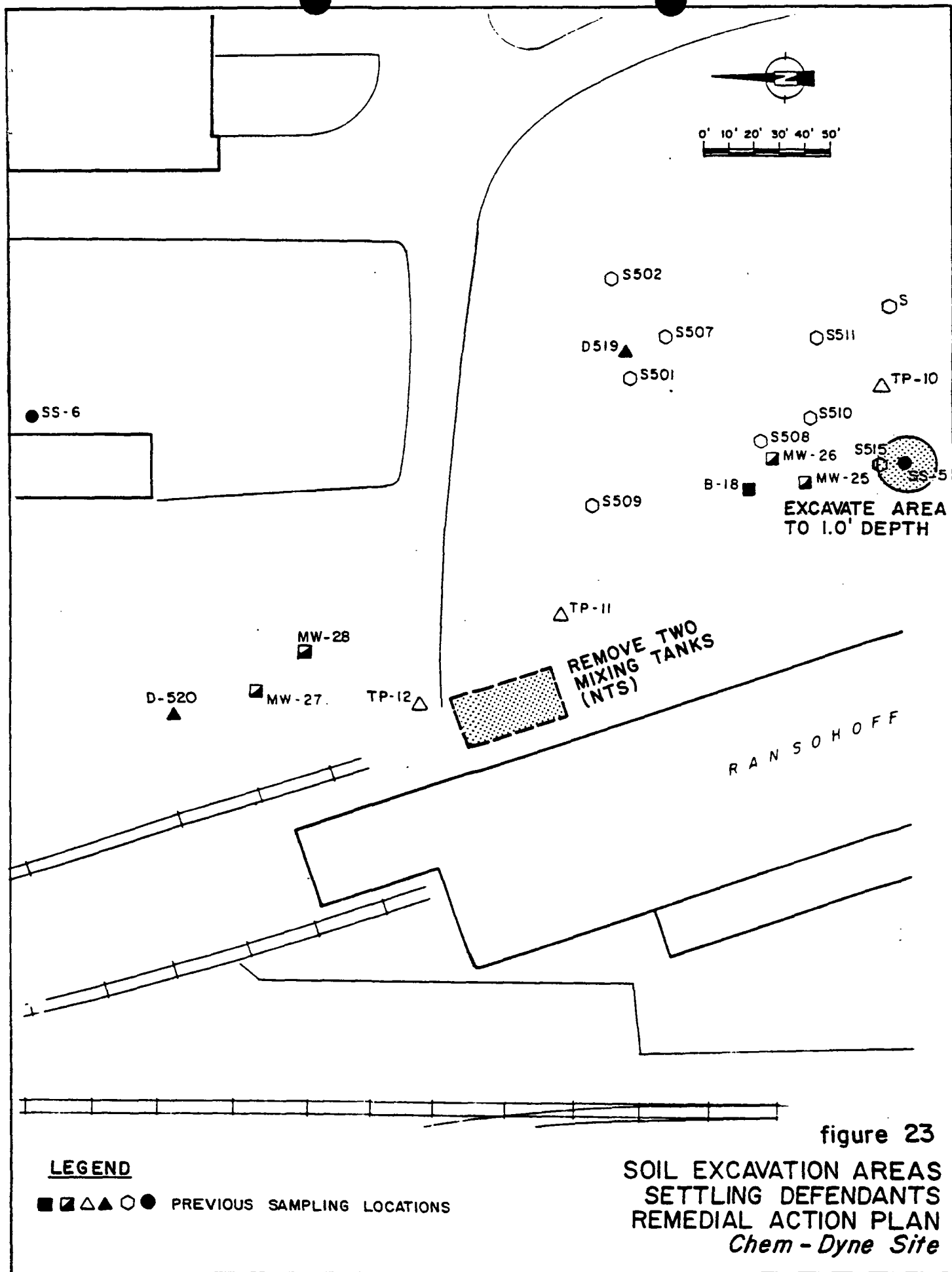
- i) Soils to a depth of 2.5 feet beneath the Blue Warehouse floor near sampling station BH-41 (Figure 20).
- ii) Surficial soils and ballast to a depth of one foot in the rail dock area (Figure 21).
- iii) Surficial soils within a 10-foot radius to a depth of one foot at sampling stations OS-3, OS-4, GS-6 and SS-5 (Figures 22 and 23).





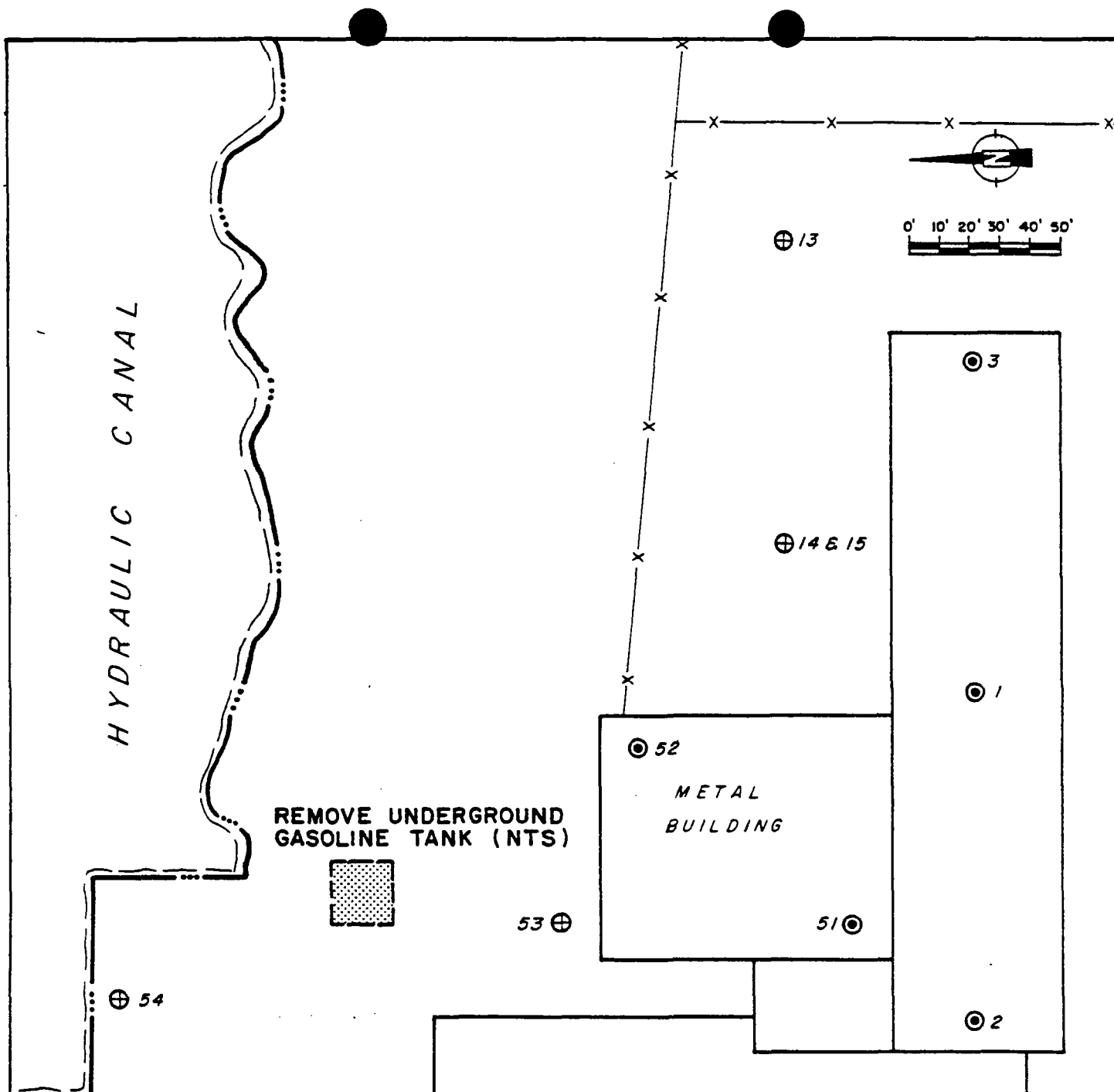






- iv) Soils with significant priority pollutant VOC contamination to a depth of 2.5 feet beneath the paved parking lot south of the Blue Warehouse near former sampling station GS-5 (Figure 22).
- v) Soils with significant contamination, which are reasonably accessible without undue interference with or hazard to the B & O Railroad trackage, adjacent to and beneath the sanitary sewer siphon in the northwest sector of the Site (Figure 21).
- vi) Two mixing tanks, their residual contents and excessive contamination immediately adjacent to and beneath the tanks, adjacent to the westerly property boundary of the Site (Figure 23).
- vii) The contents of a below grade gasoline tank, the tank proper and excessively contaminated soils adjacent to and beneath the tank, located in the northeast sector of the Site (Figure 24).
- viii) Soils with significant priority pollutant VOC contamination to a depth of five feet in the former tank farm immediately adjacent to the west side of the Chem-Dyne Building (Figure 21).

The Plan also provides for the excavation of Site soils from the following areas and disposal at a



# **LEGEND**

- ⊙ - SAMPLING LOCATIONS WITHIN BUILDINGS  
JAN. 29 - FEB. 2, 1985
- ⊕ - SAMPLING LOCATIONS  
(REMAINING ON-SITE AREAS)  
JAN. 29 - FEB. 2, 1985

FORD BUILDING

figure 24  
SOIL EXCAVATION AREAS  
SETTLING DEFENDANTS  
REMEDIAL ACTION PLAN  
*Chem - Dyne Site*

facility approved by USEPA under the Toxic Substance Control Act:

- i) Surficial soils within a 10-foot radius to a depth of one foot at sampling stations GS-4, SS-8 and BH-16 (Figure 21).
- ii) Sludge material and ballast within the coal bin (Figure 21).

During excavation and transport of contaminated soils:

- i) A stringent Site health and safety program will be enforced.
- ii) Backfill to excavated areas will generally be with clean imported fill. The excavated area beneath the Blue Warehouse will be backfilled with low permeability imported fill.
- iii) Monitoring of contaminant ambient air concentrations will be performed in the work zones, at the Site boundary, and at appropriate off-Site locations.
- iv) All transport of contaminated soils will be by licenced hazardous waste haulers and will be documented by Federal and State Manifests.

- v) Approved stipulated haulage routes through the City of Hamilton and along State and Federal Highways to the receiving disposal facility will be developed.
  
- vi) Contingency plans will be developed (off-Site and on-Site) for unanticipated events including releases of toxic substances, major explosion or fire, mass evacuation, and emergency medical services.

## 7.0 DEMOLITION AND DISPOSAL OF STRUCTURES

### 7.1 GENERAL

Structures on the Chem-Dyne Site have been constructed and operated to serve a variety of industrial uses. The structures include manufacturing buildings, a warehouse, a boiler house, a garage and a coal bunker. The Site also has underground passageways and utility corridors which are accessible. These passageways connect the Boiler Building with the Chem-Dyne Building and the Ford Building. The Ford Building also has a passageway traversing its entire length.

Inspections of the on-Site buildings by the Agencies and Settling Defendants have determined the on-Site buildings to be generally in poor structural condition. In addition, certain buildings contain quantities of miscellaneous waste and debris, including hazardous waste.

### 7.2 REMEDIAL ACTION

The Remedial Action Plan provides for the demolition of all on-Site structures. Disposal of demolition debris will be both on-Site and off-Site as appropriate.

The Plan provides for the following activities.

7.2.1 Initial Clearing of Buildings

Prior to commencing demolition, the following activities will be completed:

- i) Removal and disposal at an approved Ohio site of all above-ground asbestos waste within the buildings in a manner compliant with the requirements of NESHAPS.
- ii) Removal and disposal at a site approved by USEPA of waste samples retained from the surficial removal and disposal of drummed and tanked waste.
- iii) Removal and disposal at a site approved by USEPA of all above-ground process piping which may have transported waste material.
- iv) Disposal of gas cylinders (lecture bottles) in a cost-effective manner.
- v) Collection and disposal at a site approved by USEPA of spilled hazardous wastes within the buildings.



- vi) Removal and disposal at a sanitary landfill or other approved facility of uncontaminated large bulky items including derelict car bodies, fork lifts and other equipment.
- vii) Removal and disposal at a sanitary landfill of all non-hazardous debris including boxes, advertising literature, empty bottles, empty propane tanks and furnishings.

#### 7.2.2 Demolition

All on-Site buildings and structures will be levelled to ground elevation and all demolition debris determined under Paragraph V of the Consent Decree to not be significantly contaminated will be reduced to minimum volume and used as contouring material under the Site cap. Special attention will be paid to the placement of debris under the cap to prevent long term settlements. Debris determined under Paragraph V of the Consent Decree to be significantly contaminated will be disposed of at a site approved by USEPA. The buildings and structures included in the demolition are:

- i) Ford Building.
- ii) Chem-Dyne Building.
- iii) Ward Building.

- iv) Blue Warehouse.
- v) Boiler Building.
- vi) Metal Building.
- vii) Garage.
- viii) Coal Bunker.

Basements, paved areas and floor slabs on grade will be left in-place. The basements of the Ford and Boiler Buildings and the coal bunker will be left in-place, fractured, collapsed, backfilled with construction debris and imported compacted fill, and capped.

The underlying passageways between buildings will be abandoned in-place by collapsing and backfilling with compacted fill and demolition product. Sumps in the basements of buildings will be perforated and abandoned in-place by filling with imported compacted fill.

Selected scrap steel which is determined by OEPA and USEPA to not be significantly contaminated will be salvaged from demolished structures and transported to an off-Site smelter for remelt.

The on-Site electrical transformers will be dismantled and transported to a facility where disposal is lawful.

### 7.2.3 Health and Safety

A stringent health and safety program will be enforced during the demolition phase of the remedial construction. In particular, comprehensive monitoring for fugitive emissions both at the Site boundary and by personnel dosimeter will be performed.

### 7.2.4 Electric Generating Facility

The existing hydroelectric generating facility located at the north end of the Ford Building will be maintained in service and accessible during the remedial construction. At the completion of demolition, the structure housing the generating plant will be upgraded to provide a structurally sound and durable enclosure consistent with the pre-demolition condition of the facility. Renovations to the structure will be coordinated with the City of Hamilton Electric Power Company.

### 7.2.5 Utilities

Existing utilities including electrical distribution and communication lines will be maintained in service during demolition and Site construction activities. Arrangements will be made with utility owners for final alignment of affected utilities.

## 8.0 UNDERGROUND UTILITY REMEDIATION

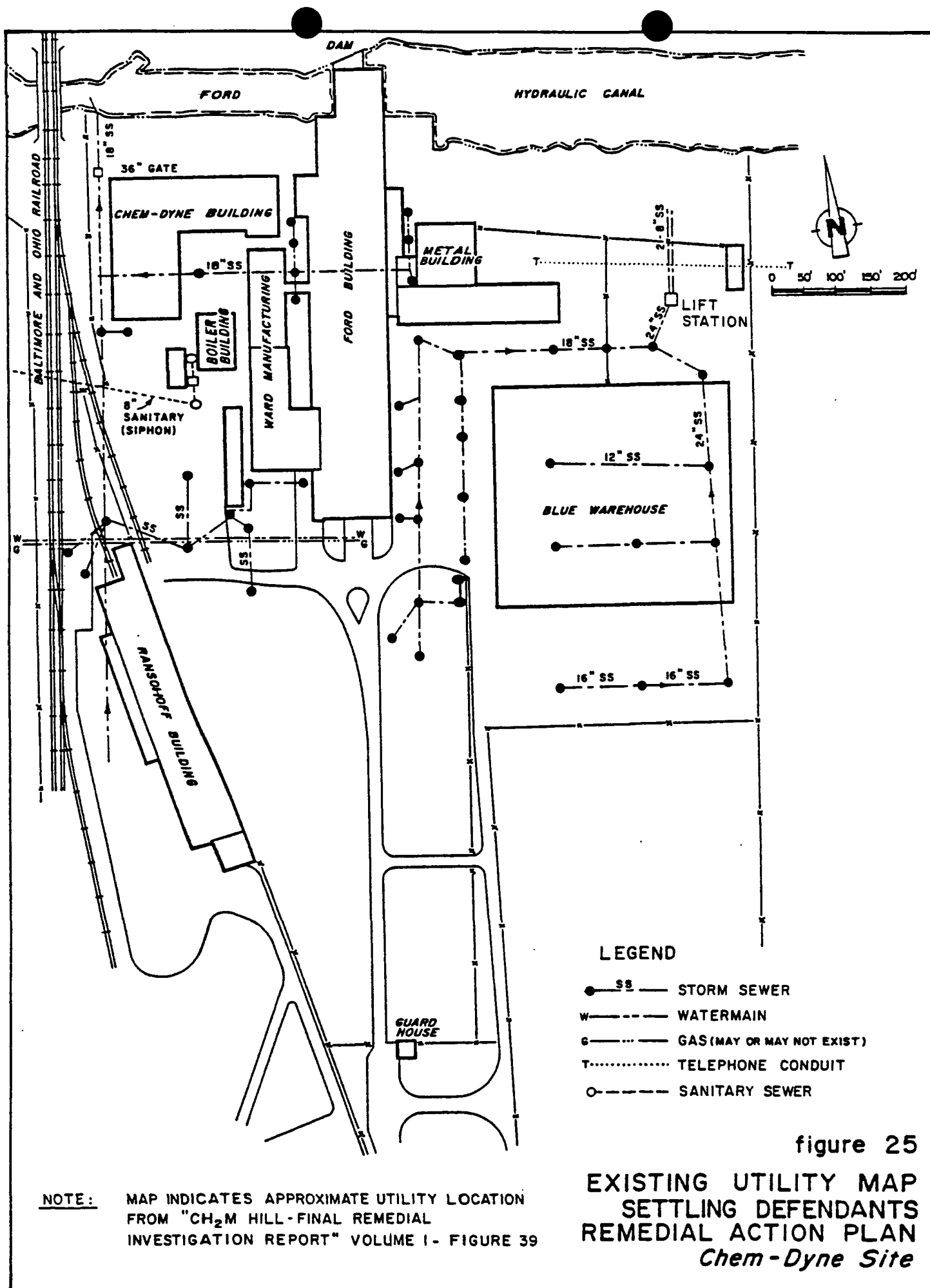
### 8.1 GENERAL

Several known underground utilities service the Chem-Dyne Site. These utilities include storm sewers, sanitary sewers, watermains, gas mains and electrical conduits. Due to the age of the Site, records identifying and locating all of the utilities servicing the Site may not be available or may not be accurate. A general plan identifying the known underground utilities has been developed and is presented in Figure 25.

The underground utilities and the surrounding bedding materials offer potential preferential migratory pathways for contaminated groundwater. In the case of underground sewers, pipe deterioration can lead to infiltration of potentially contaminated groundwater into the sewer lines with ultimate discharge to a surface water body.

### 8.2 REMEDIAL ACTION

In order to address the concerns of off-Site contaminant transport in underground utilities and associated bedding materials, all below-grade utility structures will be intercepted at the perimeter of the Site boundary. The



intercepted structures will be removed at the Site boundary and the remaining upgradient and downgradient ends of each utility will be sealed. The remaining sections of the utilities will be abandoned in-place.

In addition to the above, specific underground utilities will be remediated in the following manner:

Existing Storm Sewer

- i) All contributing laterals to the west side storm sewer will be grouted.
- ii) All manholes in both the east and west side storm sewers will be backfilled with low strength concrete.
- iii) Clay cutoff plugs will be installed through the sewer bedding at two locations along all storm sewer outfalls adjacent to the Site perimeter.
- iv) The existing east side lift station will be demolished and abandoned.

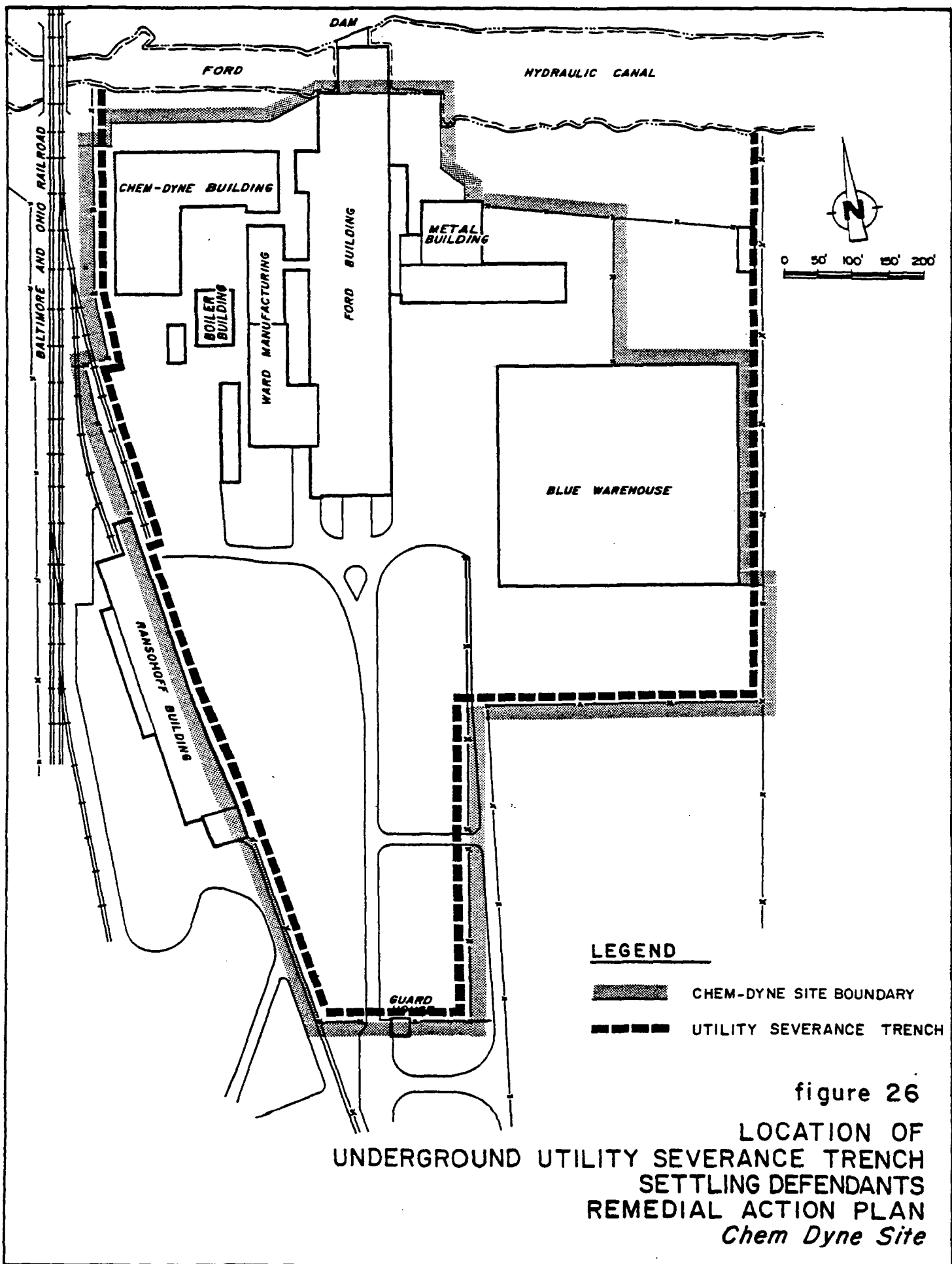
### Sanitary Sewer Siphon

- i) Liquids and sediments standing in the siphon will be removed and disposed of at a site approved by USEPA.
- ii) The siphon will be sealed in-place by cement grouting.
- iii) Clay cutoff plugs will be installed at two locations in the sewer bedding adjacent to the Site perimeter.

### Other Underground Utilities

In order to ensure all utilities are abandoned, a trench to a depth of approximately 15 feet will be excavated along the east, south and west boundaries of the Chem-Dyne Site as shown in Figure 26. Miscellaneous utilities encountered will have a section removed and the remaining ends grouted and/or capped. Excavated material generally will be reused as backfill and compacted. Excavated soils, identified either visually or by organic vapor monitoring as being significantly contaminated, will be removed and transported to a site approved by USEPA for disposal.

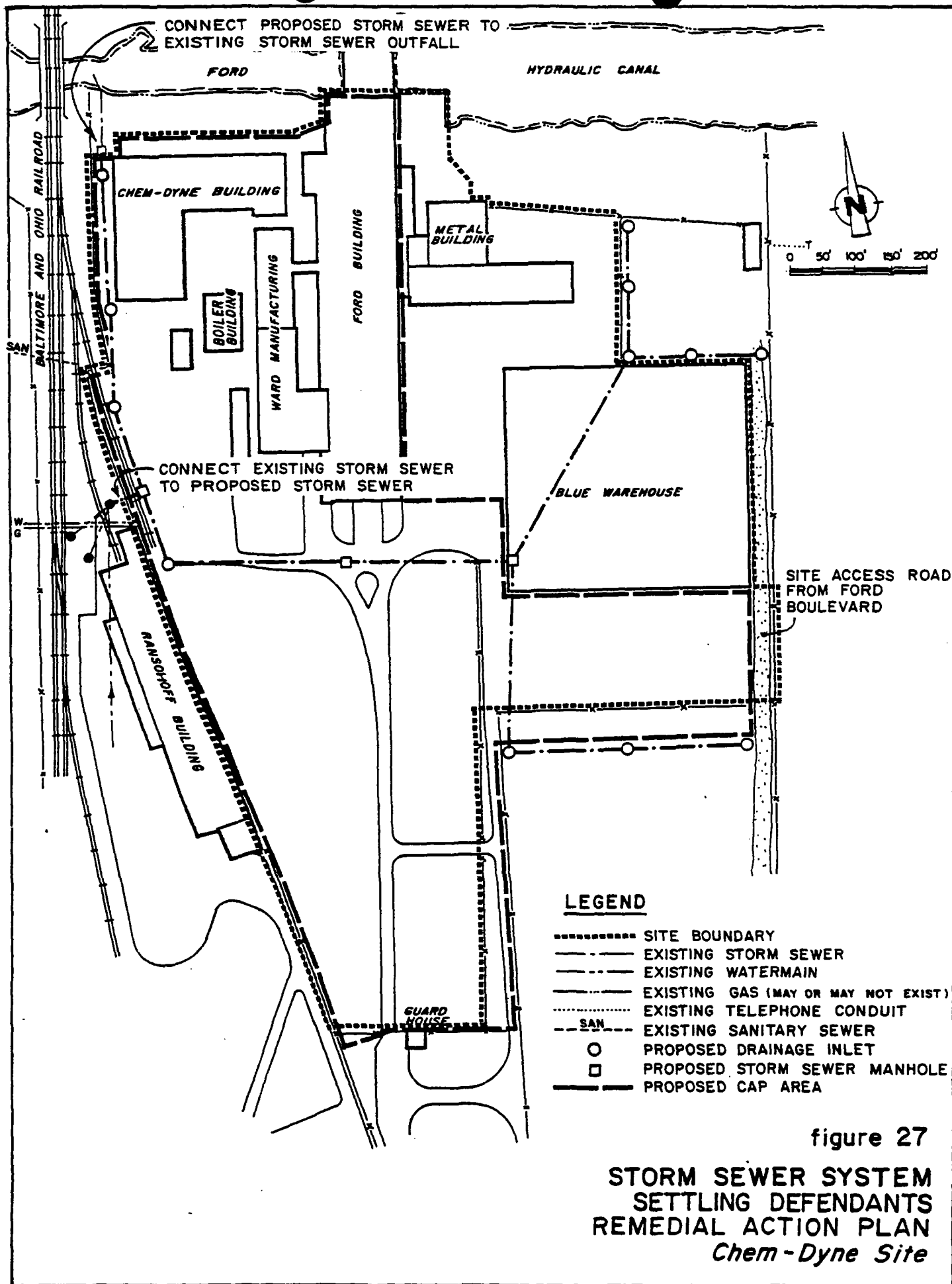
The Plan provides for the identification of utilities which service off-Site tributary areas in addition to the Chem-Dyne Site. In the event such utilities are





identified, alternate servicing acceptable to the Agencies and the City of Hamilton will be provided under this Plan.

The Plan provides for the construction of a new storm sewer system to effectively collect surface runoff from the capped area of the Site. The proposed layout of the concrete gravity storm sewer system is shown in Figure 27. All drainage inlets are located along the perimeter of the capped area. The proposed storm sewer system will also receive contributing flows from the existing storm sewer west of the Ransohoff Building and then discharge all runoff to the Ford Hydraulic Canal via the existing west side storm sewer outfall.



## 9.0 HEALTH, SAFETY AND PERSONNEL HYGIENE

The remedial investigations at the Chem-Dyne Site have identified the presence of contaminants in the on-Site soils and within some buildings. As a result, all remedial activities requiring contact with potentially contaminated materials will necessitate the implementation of a health, safety and personnel hygiene program designed to protect on-Site workers, the general public and the environment at large. Although the construction methodologies to undertake the Remedial Action Plan will be designed to minimize contact with potentially contaminated materials, some work involving contact can not be avoided. It is estimated that the duration of these activities will be approximately 80 working days. Thereafter, the work will consist of activities for which there is minimal potential for contact with, or exposure to, contaminated materials.

A Certified Industrial Hygienist will act as the Project Health and Safety Officer and will be responsible for the design, implementation and administration of the Health and Safety Plan. Pertinent aspects of the Health and Safety Plan are as follows:

- i) All Site personnel will participate in Site indoctrination and training sessions to develop an understanding of the health, safety and personnel hygiene program developed for the remedial program.

- ii) All Site personnel will be provided with entrance and exit medical examinations including pulmonary function, cardiovascular function, and blood and urine analysis. Additional examinations will be performed at any time there is suspected excessive exposure to on-Site contaminants.
- iii) Safety apparel and equipment, selected on the basis of Site monitoring and knowledge of existing contaminants at the Site, will be provided for all personnel. Such apparel and equipment will include disposable protective outer clothing, boots, gloves, hardhats, and respiratory protection.
- iv) All Site personnel will be required to shower prior to leaving the Site. Showers, lockers, sanitary facilities, and Site dedicated clothing will be provided to accommodate the workforce.
- v) An on-site laundry facility will be established. No street clothes will be permitted on-Site. All Site dedicated clothing will be laundered daily. A full-time custodian will be employed to tend to housekeeping chores.
- vi) Potentially contaminated work areas will be segregated from the remainder of the Site and procedures

established to prevent active or passive migration of contaminants into clean areas. All equipment and materials will be thoroughly decontaminated prior to leaving the Site.

vii) The following emergency equipment will be maintained at the Site:

- emergency medical facility,
- fire fighting equipment,
- portable eyewashes and showers, and
- self contained breathing apparatus.

viii) Dust suppression techniques will be employed to minimize fugitive particulate migration from the Site.

ix) Odor suppression techniques will be employed in the event unacceptable odor levels result from Site activities.

x) Monitoring of air quality will be conducted by the Health and Safety Officer. Monitoring will consist of the following activities:

- Four high volume samplers will be installed on the Site boundary. These will be monitored daily for suspended particulates and weekly for selected chemical parameters.

- Personnel dosimeter samples will be collected and analyzed for selected chemical parameters on a frequency as determined necessary by the Health and Safety Officer.
  - Organic vapor monitoring at the Site will be conducted on a continuous basis.
  - A portable direct reading particulate monitor will be provided to evaluate particulate levels at off-Site locations on a periodic basis.
- xi) An on-site meteorological station will provide continuous wind-speed and wind-direction data.
- xii) Emergency response and contingency plans will be developed to address and mitigate unanticipated emergency events.

## 10.0 PREPARATION FOR REMEDIAL PLAN IMPLEMENTATION

Prior to initiating the remedial program contained herein, several preliminary work tasks must be completed at the Chem-Dyne Site. Items of particular concern include access to off-Site properties, property purchases and/or easements, permits and Agency review and approval of Remedial Plans.

### 10.1 ACCESS

Access to both on-Site and off-Site properties and facilities for the purpose of effectuating monitoring and performing the Remedial Action Plan shall be in accordance with Paragraph VII of the Consent Decree.

### 10.2 PERMITS

Permits to construct and implement the Remedial Action Plan are governed by Paragraph IV of the Consent Decree. These permits are as follows:

#### Waste Water Treatment Plant

- i) Permit to Install for the treatment plant.

- ii) Permit to Install and Permit to Operate for the vapor phase carbon treatment system.

#### Waste Water Discharge

- i) Surface water discharge permit for treated groundwater to the Ford Hydraulic Canal (National Pollution Discharge Elimination System Permit).
- ii) Permit to inject treated groundwater into the aquifer (Underground Injection Control).

#### Site Construction

- i) Demolition Permit.
- ii) Building Permit.

### 10.3 SECURITY

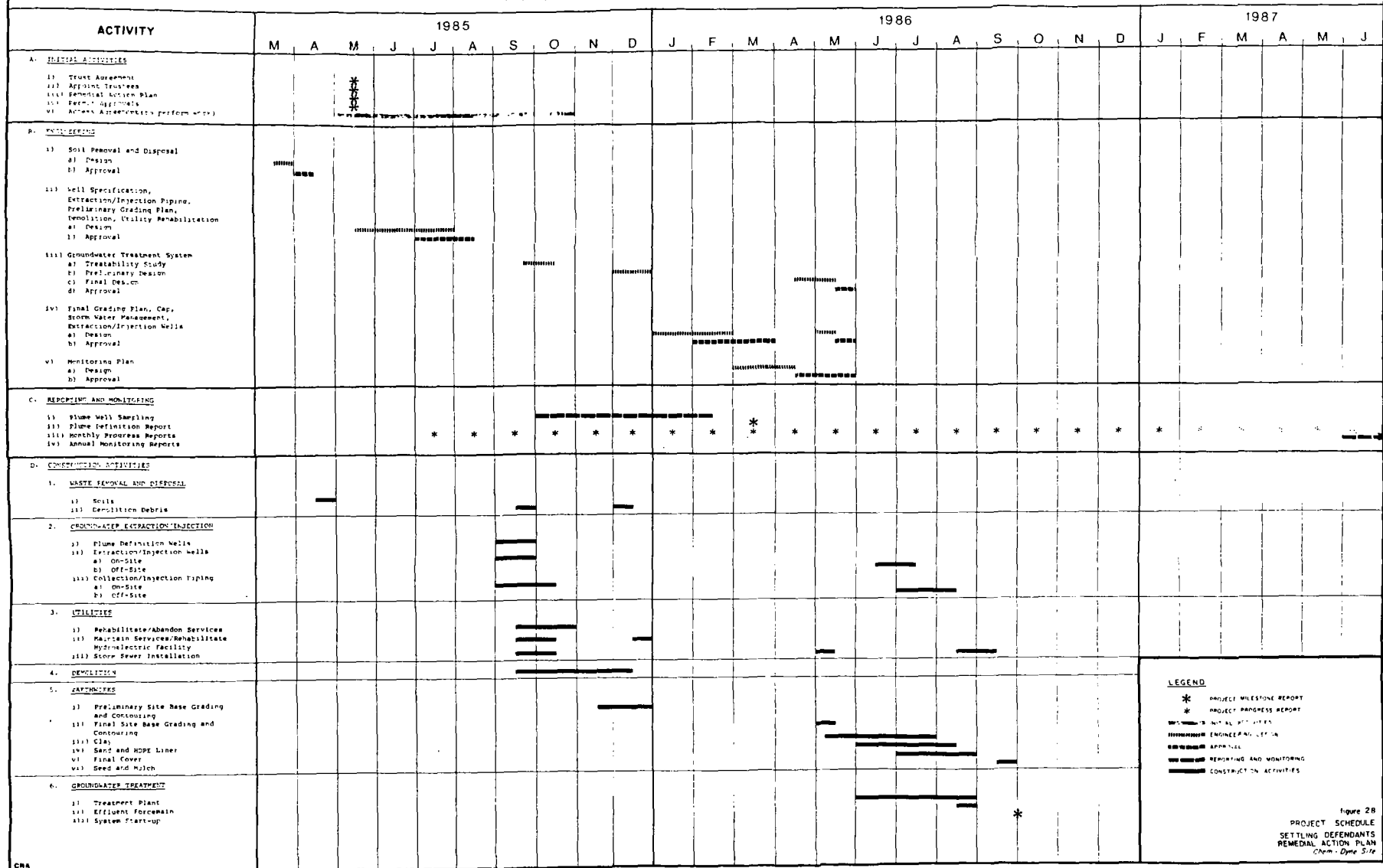
Due to the nature of the remedial activities to be implemented at the Site, a security service will be retained to provide 24-hour a day surveillance of the Site during the remedial construction program.



## 11.0 PROJECT SCHEDULE

A proposed schedule to undertake additional Site investigations and to design and complete the Remedial Action Plan at the Site has been developed and is presented in Figure 28. This schedule is based on the current understanding of the Site conditions and may require refinement once additional data are available. It is noted that certain activities of the overall remedial program are weather dependent and delays may result should unseasonable weather conditions prevail during remedial plan implementation. The schedule also assumes that all Parties will work in a cooperative manner to expedite plan and permit approvals and access agreements.

# PROJECT SCHEDULE



APPENDIX 2

CHEM-DYNE SITE TRUST FUND

Dated:

\_\_\_\_\_, 1985

NEXT 6

PAGES 6

4' x 6' CHART

## ACTIVITY

M

A

M

### A. CONSENT ORDER AND REMEDIAL ACTION PLAN

- i) File with Federal District Court
- ii) Approval by Court

### B. ENGINEERING

- i) Soil Removal and Disposal
  - a) Design
  - b) Approval
- ii) Well Specification,  
Extraction/Injection Piping,  
Preliminary Grading Plan,  
Demolition, Utility Rehabilitation
  - a) Design
  - b) Approval
- iii) Groundwater Treatment System
  - a) Treatability Study
  - b) Preliminary Design
  - c) Final Design
  - d) Approval
- iv) Final Grading Plan, Cap,  
Storm Water Management,  
Extraction/Injection Wells
  - a) Design
  - b) Approval
- v) Monitoring Plan



# PROJECT

1985

J

A

S

O

N

D

J

F

\*

|||||

|||||

|||||

|||||

# SCHEDULE

1986

A

M

J

J

A

S

O

N

|||||

|||||

|||||

|||||

|||||

|||||

|||||

-----

1987

J

F

M

A

M

J

J

- iii) Monthly Progress Reports
- iv) Annual Monitoring Reports

D. CONSTRUCTION ACTIVITIES

1. WASTE REMOVAL AND DISPOSAL

- i) Soils
- ii) Demolition Debris

2. GROUNDWATER EXTRACTION/INJECTION

- i) Plume Definition Wells
- ii) Extraction/Injection Wells
  - a) On-Site
  - b) Off-Site
- iii) Collection/Injection Piping
  - a) On-Site
  - b) Off-Site

3. UTILITIES

- i) Rehabilitate/Abandon Services
- ii) Maintain Services/Rehabilitate Hydroelectric Facility
- iii) Storm Sewer Installation

4. DEMOLITION

5. EARTHWORKS

- i) Preliminary Site Base Grading and Contouring
- ii) Final Site Base Grading and Contouring
- iii) Clay
- iv) Sand and HDPE Liner
- v) Final Cover
- vi) Seed and Mulch

6. GROUNDWATER TREATMENT

- i) Treatment Plant
- ii) Effluent Forcemain
- iii) System Start-up



\*

\*

\*

\*

\*

\*

\*

—

—

—

—

—

—

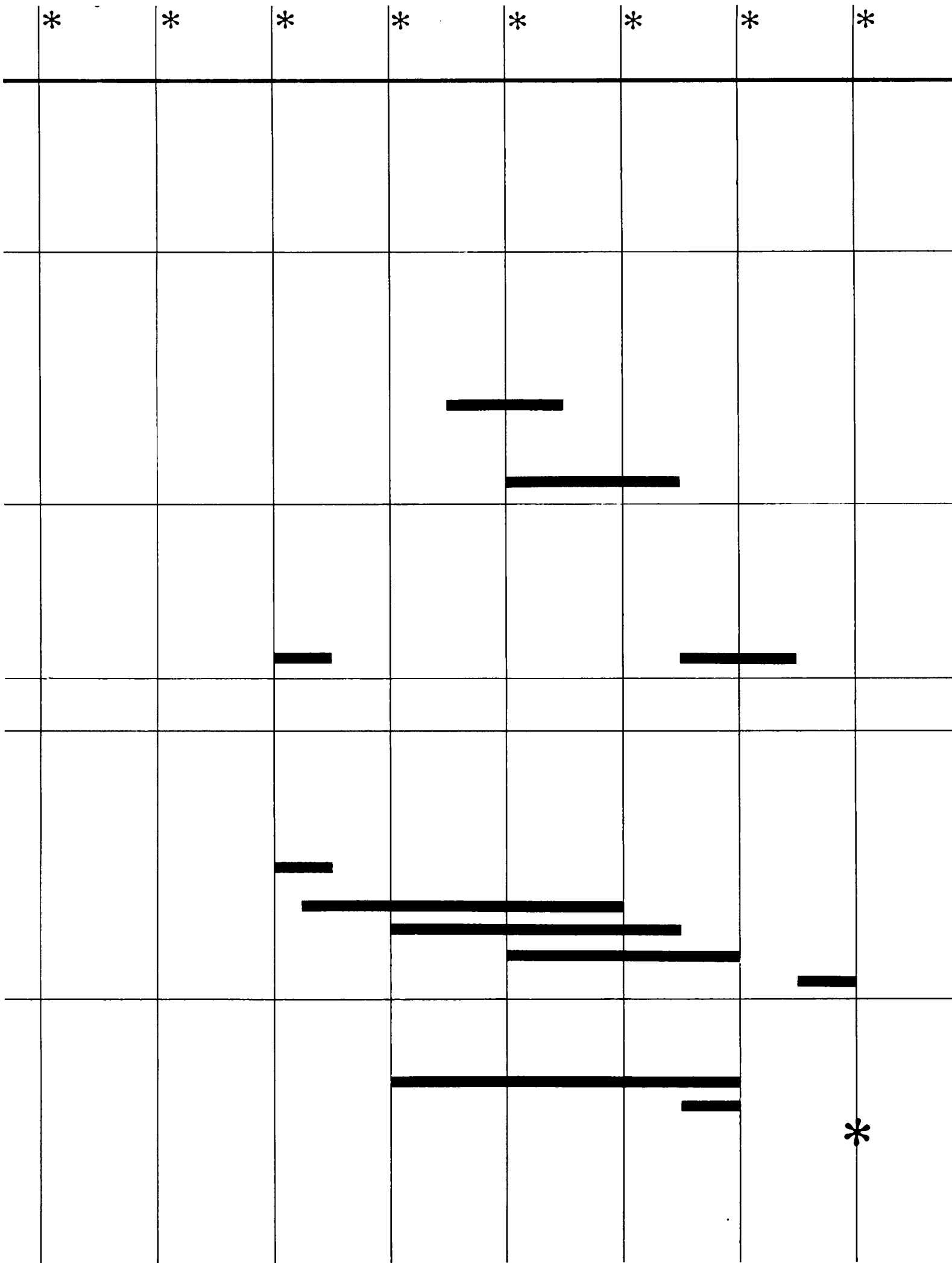
—

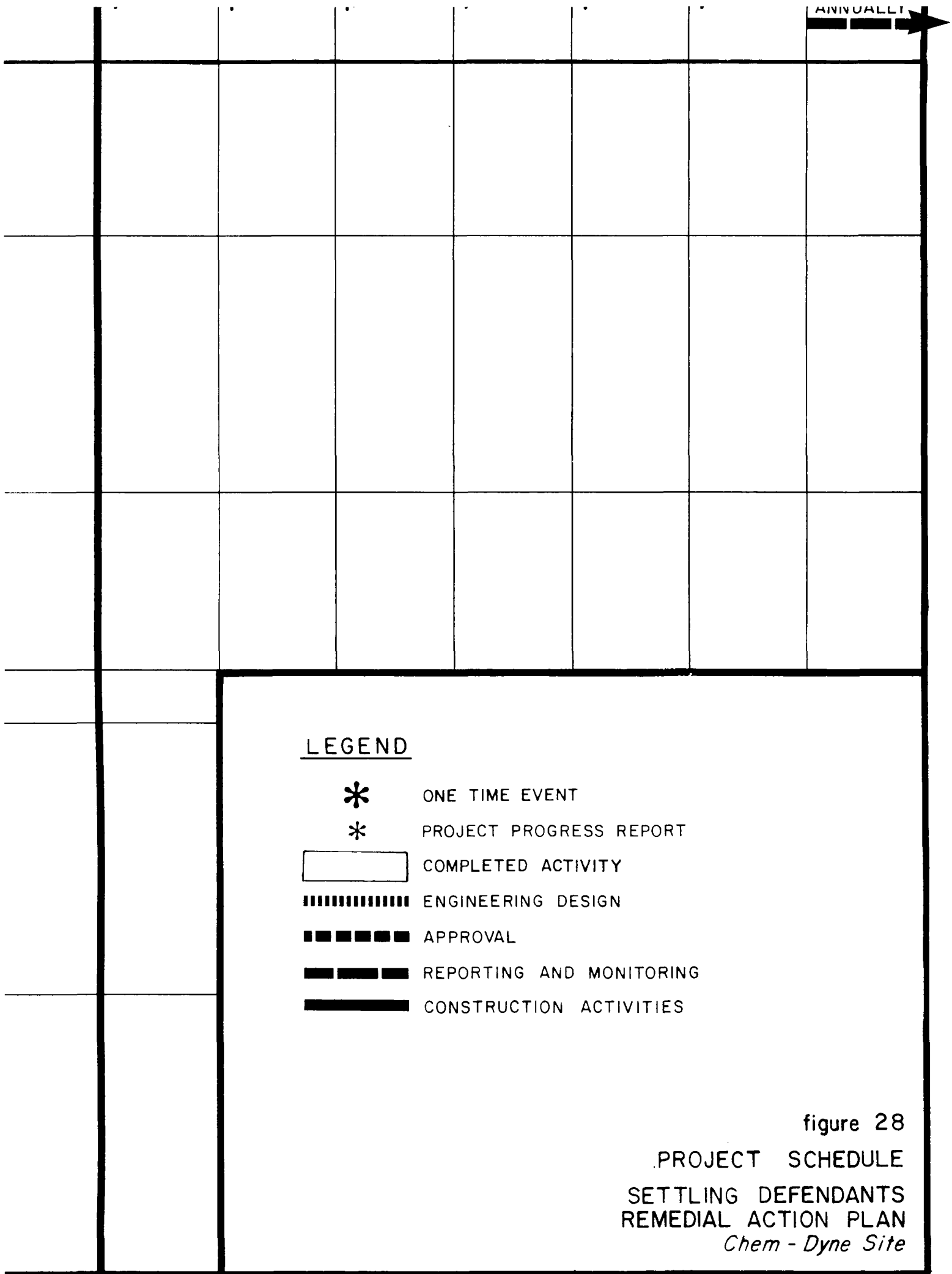
—

—

—

—





## TABLE OF CONTENTS

### ARTICLE FIRST: PURPOSE, NAME, AND ADDITIONAL SETTLORS.

- 1.01: TRUST FUND PURPOSE.
- 1.02: ADDITIONAL SETTLORS.
- 1.03: NAME OF TRUST

### ARTICLE SECOND: DISPOSITIVE PROVISIONS.

- 2.01: PAYMENT OF PRINCIPAL TO GOVERNMENTS.
- 2.02: PAYMENT OF INCOME AND PRINCIPAL.
- 2.03: ADDITIONS TO TRUST ESTATE.
- 2.04: NO TRANSFERABILITY OF INTEREST IN THE TRUST.
- 2.05: TIME OF TERMINATION OF TRUST.
- 2.06: DISTRIBUTION OF TRUST FUND UPON TERMINATION.
- 2.07: ALTERATIONS, AMENDMENTS AND REVOCATION.
- 2.08: CONTROL BY SETTLORS.
- 2.09: NO AUTHORITY TO CONDUCT BUSINESS.

### ARTICLE THIRD: TRUSTEES.

- 3.01: DESIGNATION AND QUALIFICATION OF SUCCESSOR TRUSTEES.
- 3.02: EXONERATION FROM BOND.
- 3.03: COMPENSATION.
- 3.04: RULES OF TRUST.
- 3.05: DECISIONS OF TRUSTEES.
- 3.06: TRANSACTIONS WITH THIRD PARTIES.
- 3.07: ACCOUNTS.

3.08: LIABILITY.

3.09: INDEMNITY OF TRUSTEES.

ARTICLE FOURTH: TRUSTEES' POWERS.

4.01: PAYMENT OF EXPENSES OF ADMINISTRATION.

4.02: RETENTION OF PROPERTY.

4.03: PRESERVATION OF PRINCIPAL.

4.04: INVESTMENT OF TRUST ESTATE.

4.05: MANAGEMENT OF TRUST ESTATE.

4.06: EXTENSION OF OBLIGATIONS AND NEGOTIATION OF CLAIMS.

4.07: REGISTRATION OF SECURITIES.

4.08: LOCATION OF ASSETS.

4.09: RETENTION AND REMOVAL OF PROFESSIONAL AND EMPLOYEE SERVICES.

4.10: AUTHORITY TO REPRESENT SETTLORS

4.11: ADVISORY COMMITTEES.

4.12: INSTITUTION OF LITIGATION.

4.13: PERMITS.

4.14: DELEGATION OF MINISTERIAL POWERS.

4.15: POWERS OF TRUSTEES TO CONTINUE UNTIL FINAL DISTRIBUTION.

4.16: DISCRETION IN EXERCISE OF POWERS.

ARTICLE FIFTH: DEFINITIONS AND MISCELLANEOUS.

5.01: HEADINGS.

5.02: PARTICULAR WORDS.

5.03: SEVERABILITY OF PROVISIONS.

- 5.04: NOTICES UNDER AGREEMENT.
- 5.05: COUNTERPARTS OF AGREEMENT.
- 5.06: GOVERNING JURISDICTION.
- 5.07: MISCELLANEOUS.

TRUST AGREEMENT

AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_,  
1985, by and between \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_ and \_\_\_\_\_,  
(hereinafter called the "Settlors"), and \_\_\_\_\_  
of \_\_\_\_\_ of \_\_\_\_\_,  
\_\_\_\_\_ of \_\_\_\_\_,  
of \_\_\_\_\_, and \_\_\_\_\_ of \_\_\_\_\_  
\_\_\_\_\_ (hereinafter, together with any successors  
in office, called the "Trustees").

The Settlers hereby deliver to the Trustees and the  
Trustees hereby acknowledge receipt of the funds in the  
amounts listed in Schedule A, annexed hereto, and by this  
reference made a part hereof;

TO HAVE AND TO HOLD said funds and such additional  
funds as may from time to time be added thereto as provided  
herein, together with the proceeds and reinvestments thereof  
(hereinafter collectively called the "Trust Fund"), unto the  
Trustees;

IN TRUST NEVERTHELESS, for the uses and purposes and  
upon the terms and conditions hereinafter set forth:

FIRST: PURPOSE, NAME, AND ADDITIONAL SETTLORS

1.01: TRUST FUND PURPOSE. The purpose of this Trust is to provide funds for property and services necessary to satisfy the obligations of Settlers under the Consent Decree which will be lodged on or about June 13, 1985, in United States of America v. Chem-Dyne Corporation, et al., Civil Action No. C-1-82-840 (S.D. Ohio, Western Division) and State of Ohio v. Rohm & Haas Company, et al., Civil Action No. C-1-82-962 (S.D. Ohio, Western Division) (hereinafter referred to as "Consent Decree"), to make payments to the United States and the State of Ohio as provided in Section 2.01 below, and to carry out on behalf of the Settling Defendants, as that term is defined in the Consent Decree, all of the Settling Defendants' obligations under the Consent Decree. To fulfill this purpose, the Trustees will thoroughly familiarize themselves with the terms of the Consent Decree and will take all actions necessary to ensure that the Consent Decree is fully-effectuated. Trustees may take actions prior to the entry of the Consent Decree to acquire necessary permits and to facilitate the economical performance of any obligations under the Consent Decree.

1.02: ADDITIONAL SETTLORS. The Settlers are Settling Defendants, as that term is used in the Consent Decree. Additional companies which are also Settling Defendants will contribute (by certified check or wire transfer) funds to this Trust in accordance with the Consent Decree within thirty (30) days of the entry of the Consent Decree, and shall also execute a Chem-Dyne Site Trust Fund Contribution Form and deliver it to the Trustees within that thirty (30) day period. When a company has both contributed funds and executed and delivered a Contribution Form, such company will become a Settlor of this Trust and be bound by its terms. At the end of the thirty (30) day period from entry of the Consent Decree, the Trustees will prepare a Schedule A-1 listing all Settlers of this Trust and the amount of contributions of each, and each Settlor's percentage share of the portion of trust assets contributed by all Settlers, and the Trustees will mail a copy of same to each Settlor.

1.03: NAME OF TRUST. The funds received by the Trustees from the Settlers together with the proceeds and reinvestments thereof shall be known as the Chem-Dyne Site Trust Fund.



SECOND: DISPOSITIVE PROVISIONS. The Trustees shall manage, invest and reinvest and distribute the Trust Fund as follows:

2.01: PAYMENT OF PRINCIPAL TO GOVERNMENTS. Trustees shall make the following payments as required by the Consent Decree:

(a) To the United States Environmental Protection Agency the sum of Four Million Dollars (\$4,000,000), less amounts paid directly to the U.S. EPA from an escrow account comprised of funds contributed by companies eligible under Article XIV of the Consent Decree, on or before forty-five (45) days from the date of entry of the Consent Decree. The payment to the United States Environmental Protection Agency under this section shall be by check issued by the Trustees, made payable to "EPA Hazardous Substance Response Trust Fund", and shall be sent by certified mail return receipt requested, to U.S. EPA, Superfund, P.O. Box 371003M, Pittsburgh, Pennsylvania 15251.

(b) To the State of Ohio the following sums: One Million Dollars (\$1,000,000) on or before forty (40) days from the date of entry of the Consent Decree; One Million Dollars (\$1,000,000) on or before December 31, 1986; and One Million Four Hundred Thirty Thousand Dollars (\$1,430,000) on or before December 31, 1987. Payments to the State of Ohio under this section shall be by check issued by the Trustees, made payable to "Ohio Attorney General", and shall be sent by certified mail return receipt requested, to Attorney General, State of Ohio, Attention: Chem-Dyne Coordinator, 30 Broad Street, 17th Floor, Columbus, Ohio 43215.

2.02: PAYMENT OF INCOME AND PRINCIPAL. During the term of this Trust the Trustees shall use so much or all of the income and/or principal of the Trust Fund (income to be used first) as the Trustees shall deem necessary or advisable for the cleanup of the soil and groundwater at the Chem-Dyne Site and to carry out all of the other obligations of the Settlers under and in accordance with the terms of the Consent Decree.

2.03: ADDITIONS TO TRUST ESTATE. The Settlers retain an unlimited obligation to ensure that the Trust has sufficient assets to complete the work required under the Consent Decree. The Trustees shall make demand in writing upon the Settlers for additional contributions to this Trust in amounts determined by the Trustees as necessary, consistent with Section IV(A)(3) of the Consent Decree, to keep this Trust in effect to satisfy the purpose of this Trust as set forth in Section 1.01. When such calls for additional payments are made, each Settlor's contribution shall be in proportion

to its contribution to the total amount of contributions to the Trust by all Settlers as specified in Column three of Appendix 3 to the Consent Decree. The Settlers agree by their execution of this Agreement and the Contribution Form to satisfy all such future calls upon them for contribution to the Trust Fund within thirty (30) days of receipt of such written demand.

2.04: NO TRANSFERABILITY OF INTEREST IN THE TRUST. The interest of the Settlers in the Trust, and their obligation to provide funds under Section 2.03, is not transferable, except to a successor corporation or corporations.

2.05: TIME OF TERMINATION OF TRUST. This Trust shall terminate upon termination of the Consent Decree. Notwithstanding any other provision of this Trust Agreement, this Trust shall terminate, if it has not otherwise terminated, twenty-one (21) years after the date of death of the last to survive of the original Trustees of this Trust and of the officers, as specified in the articles of incorporation, of those companies listed in Section 3.01.

2.06: DISTRIBUTION OF TRUST FUND UPON TERMINATION. Upon termination of this Trust, the Trustees shall liquidate the assets of the Trust and thereupon distribute the entire remaining Trust Fund, including all accrued, accumulated and undistributed net income, to the Settlers in proportion to their respective contributions to the Trust Fund during the term of the Trust. If any Settler, or its successor, cannot be located within thirty (30) days after the termination date after diligent effort, its share of the Trust shall be deemed to be waived, and the Trustees shall distribute that share to any tax-exempt organization established under Section 501(c) of the Internal Revenue Code whose purpose is related to environmental protection. If such an organization does not exist, the Trustees, in their sole discretion, shall donate the funds to an appropriate charitable organization.

2.07: ALTERATIONS, AMENDMENTS AND REVOCATION. A majority of the Settlers may, from time to time and at any time during the term of this Trust alter, amend or revoke this Agreement, in whole or in part, in which event notice of such actions shall be given to Settlers as provided in Section 5.04; provided, however, that the Trustees must at all times prior to the termination date as referenced in Section 2.05 have all powers or make all provision necessary to effectuate the terms of the Consent Decree, subject to Section 2.08.

2.08: CONTROL BY SETTLERS. A majority of the Settlers may at any time direct the Trustees in writing to take any action or to refrain from taking any action, provided that such direction does not conflict with the Settlers' obligations under the Consent Decree. This provision is not

intended to alter in any way other provisions of this Agreement which confer authority upon the Trustees to manage the Trust.

2.09: NO AUTHORITY TO CONDUCT BUSINESS. The purpose of this Trust is limited to the matters set forth in section 1.01 above. This Agreement shall not be construed to confer upon the Trustees any authority to conduct business. The object of this Trust is limited to the matters set forth in Section 1.01 above, specifically, and there is no objective to carry on any business or divide the gains therefrom.

THIRD: TRUSTEES. The appointment of successor Trustees, provisions governing resignation and compensation of the Trustees, and the general rules governing the relationship of any Trustee and Co-Trustee as between themselves and as to interested or third parties are as follows:

3.01: DESIGNATION AND QUALIFICATION OF SUCCESSOR TRUSTEES. The original Trustees have been selected and approved by the Settlers, through their execution of this Agreement or the Contribution Form. Trustees are employees, agents or designees of certain Settlers ("appointing Settlers"), which have agreed that such employees, agents or designees may serve as Trustees of the Trust. Settlers agree that appointing Settlers are performing a voluntary service on behalf of all Settlers, and all Settlers agree that in no event shall they, their successors and assigns attempt to impose any liability on appointing Settlers, either in litigation or otherwise, for the acts or failures to act of the Trustees. The appointing Settlers are \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

A Trustee may resign at any time upon providing sixty (60) days written notice of such resignation to all other Trustees and the resigning Trustee's appointing Settlor. At any time during the term of this Trust, an appointing Settlor shall have the right to remove its employee, agent or designee serving as Trustee hereunder and/or appoint a successor Trustee, which shall be a person and not a corporation or other legal entity. An appointing Settlor shall inform the other Trustees in writing of the removal and/or appointment of a new Trustee. As nearly as practicable, there shall be five (5) Trustees of this Trust at all times. A Trustee may not resign if such resignation would result in fewer than three Trustees.

An appointing Settlor may notify the Trustees at any time that it will no longer act as an appointing Settlor. Upon such notice, the Trustee provided by the appointing Settlor shall no longer be a Trustee, and the remaining Trustees shall select a new appointing Settlor who shall appoint an employee, agent or designee to serve as a new Trustee. An appointing Settlor may not decline to continue to serve if such action would result in fewer than three Trustees.

A successor or substitute Trustee or appointing Settlor shall be ratified by a majority vote of all Settlers.

Any Trustee shall cease to be a Trustee of this Trust upon his death, resignation or adjudication as an incompetent or at such time as he becomes unable to discharge the duties of Trustee as certified by his appointing Settlor. Should a Trustee leave the employment of the appointing Settlor, the appointing Settlor shall appoint another employee, agent, or designee to serve as Trustee.

Any Trustee may be removed with or without cause by the agreement of a majority of the Settlers. A majority of the Settlers may also, with or without cause, replace an appointing Settlor, and, in such event, the employee, agent or designee of that appointing Settlor immediately shall cease to be a Trustee. In either event, a new appointing Settlor or Trustee shall be selected in the same manner as if the appointing Settlor had withdrawn or replaced a Trustee.

In the event that an appointing Settlor shall (i) become insolvent or admit in writing its insolvency, (ii) be unable or admit in writing its inability to pay its debts as they mature, (iii) make a general assignment for the benefit of creditors, (iv) have an involuntary petition in bankruptcy filed against it, or (v) commence a case under or otherwise seek to take advantage of any bankruptcy, reorganization, insolvency, readjustment of debt, dissolution or liquidation law, statute, or proceeding, the employee, agent, or designee of that company serving as Trustee shall cease to act, and a new appointing Settlor shall be selected in the same manner as if the appointing Settlor had declined to continue to act as an appointing Settlor.

Any successor Trustee shall qualify by a duly acknowledged acceptance of this Trust, delivered to the other Trustees and to the Settlers. Any successor Trustee shall have all the rights, powers, duties and obligations herein granted to the original Trustees.

3.02: EXONERATION FROM BOND. No bond or other security shall be exacted or required of any Trustee appointed by this Agreement or pursuant to Section 3.01 in any jurisdiction. The Trustees may acquire and pay from the Trust Fund any accident, liability, or other insurance, bonds, etc., that they may deem prudent in the administration of this Trust, including insurance protecting the Trustees themselves from liability to third persons or to any Settlor.

3.03: COMPENSATION. Trustees shall be compensated by their appointing Settlor and not the Trust. An appointing Settlor shall be entitled to charge this Trust for all time expended by its Trustee on matters connected with the administration of this Trust at an hourly rate of Fifty Dollars (\$50). The Trustees may, in their discretion, periodically adjust the hourly rate to be charged or change to a per diem system of compensation. The hourly rate is set at an amount intended approximately to reimburse the appointing Settlor for the salary and benefits of a Trustee. All adjustments shall be consistent with that intent and, thus, shall reflect generally only the costs incurred by appointing Settlers as a result of the activities of their Trustee. All

Trustees and appointing Settlers shall be entitled to be reimbursed from the Trust Fund for out-of-pocket expenses incurred in connection with the administration of this Trust. The Trustees shall make all such reimbursements to the appointing Settlers on a quarterly basis.

3.04: RULES OF TRUST. The Trustees shall determine the rules by which they shall perform their duties. The Trustees may permit voting by proxy (which may be another Trustee or any representative of an absent Trustee, but the appointing Trustee shall not therefore be released from his fiduciary obligations), meetings by telephone, and such other procedures as they shall decide in their discretion are appropriate. The Trustees shall also select from among themselves a chairman.

3.05: DECISIONS OF TRUSTEES. In all matters the decision of a majority of the Trustees shall control.

3.06: TRANSACTIONS WITH THIRD PARTIES. No person or organization dealing with the Trustees hereunder shall be required to inquire into or to investigate their authority for entering into any transaction or to see to the application of the proceeds of any such transaction.

3.07: ACCOUNTS. The Trustees shall present an accounting to the Settlers monthly. That account shall show the financial condition of the Trust Fund, including, without limitation, income and expenses of the Trust for the month. Once each year, the accounts shall be prepared and audited by independent certified public accountants employed by the Trustees. Any Settlor shall have the right to object to any of the Trustees' audited accounts. Any Settlor desiring to object to the Trustees' accounts shall deliver notice of its objection to the Trustees in writing within ninety (90) days from the day the Trustees shall mail or deliver such audited accounts to the Settlor. If no written objection is made within that time, the presentation of the account to the Settlers shall release and discharge the Trustees with respect to all acts or omissions to the date of said annual account.

3.08: LIABILITY. The Trustees shall not be liable for any acts, omissions or defaults of any agent or depositary appointed or selected with reasonable care. Each Trustee shall be liable only for such Trustee's own acts or omissions occasioned by the willfulness or gross neglect of such Trustee. No Trustee shall be responsible for the acts or omissions of any other Trustee, including acts or omissions of any prior Trustee or Co-Trustee; nor, in particular, shall any Trustee be liable in regard to the exercise or nonexercise of

any powers and discretions properly delegated pursuant to the provisions of this Agreement.

An appointing Settlor shall not be liable for any matters relating to its actions in appointing a Trustee. In the event an appointing Settlor is sued or otherwise sought to be held accountable for any matters relating to its appointment of a Trustee, the Trust shall indemnify the appointing Settlor for any damages ultimately adjudged and/or costs of defense incurred. This exclusion does not apply to any liability which an appointing Settlor has under this Trust, including payments of additional funds under Section 2.03.

3.09: INDEMNITY OF TRUSTEES. Each Settlor agrees that the Trustees may use the funds in the Trust to indemnify and hold harmless each of the Trustees from any and all liability arising out of this Trust and this Agreement excepting only such liability as may be imposed on the Trustees pursuant to Section 3.08 hereof. In the event a Trustee is sued for matters related to his service as Trustee, the Trust may, in the discretion of the other Trustees, be used to reimburse a Trustee for all or a portion of his expenses and costs of defending such suit, including reasonable attorneys fees, if the Trustee substantially prevails in the defense of the suit.

FOURTH: TRUSTEES' POWERS. The Trustees shall have, with respect to the Trust Fund, the following powers, all of which powers are fiduciary powers to be exercised in a fiduciary capacity and in the best interests of this Trust and the beneficiaries thereof, and which are to be exercised as the Trustees, acting in such fiduciary capacity, in their discretion, shall determine, and which are intended in no way to limit the general powers of the office, namely:

4.01: PAYMENT OF EXPENSES OF ADMINISTRATION. To incur and pay any and all charges, taxes and expenses upon or connected with this Trust or the Trust Fund in the discharge of their fiduciary obligations under this Agreement.

4.02: RETENTION OF PROPERTY. To hold and retain all or any part of the Trust Fund in the form in which the same may be at the time of the receipt by the Trustees, as long as they shall deem advisable, notwithstanding that the same may not be authorized by the laws of any state or rules of any court for the investment of trust funds, and without any liability for any loss of principal or income by reason of such retention.

4.03: PRESERVATION OF PRINCIPAL. Notwithstanding any other provision in this Agreement, to at all times hold, manage and invest the assets of this Trust in a manner designed to maximize and preserve the income and principal of this Trust for the purposes of this Trust.

4.04: INVESTMENT OF TRUST ESTATE. Pending use of the Trust Fund for the purposes of this Trust, to invest and reinvest all or any part of the Trust Fund, including any undistributed income therefrom, in United States direct obligations, obligations guaranteed by agencies of the United States government, common trust funds or mutual funds which invest in United States direct or guaranteed obligations, bank certificates of deposit to the extent they are insured by the federal government, and common trust funds or money market funds investing in short term municipal bonds. In all cases, however, the total investments must be sufficiently liquid to enable the Trust to fulfill the purposes of the Trust and to satisfy obligations as they become due. Nothing in this Section 4.04 shall be construed as authorizing the Trustees to carry on any business or to divide the gains therefrom. The sole purpose of this Section 4.04 is to authorize the investment of the Trust Fund (or any part thereof), as may be reasonably prudent pending use of the Trust Fund for the purposes of this Trust.

4.05: MANAGEMENT OF TRUST ESTATE. Without any business objective, and as may be incidental or advisable in connection with the purposes of this Trust as set forth in



Section 1.01, to sell, exchange, partition or otherwise dispose of all or any part of the Trust Fund at public or private sale, without prior application to or approval by or order of any court, upon such terms and in such manner and at such prices as they shall determine; to mortgage, exchange, partition, alter, abandon or improve any real property; to make repairs, replacements and improvements, structural or otherwise, of any such property; to lease or rent the same for any term, regardless of whether such term may extend beyond the duration of the administration of this Trust; to foreclose any mortgage in any way authorized by law or to compromise or to settle in any manner any claims which may arise under any mortgage; to take over, take title to, manage and operate any real property, either temporarily or permanently, and to pay out sums of money for the insurance, protection, maintenance, repair, alteration, improvement or change of such property; to modify, renew, extend, pay off and satisfy mortgages, bonds, notes or other obligations or any installment of principal thereof or any interest due thereon and to waive any defaults in the performance of the terms and conditions thereof; and to execute and deliver any and all deeds, bills of sale, assignments, bonds, mortgages, leases or other instruments in connection with these powers, all at such times, in such manner and upon such terms and conditions as they may deem expedient. The Trustees' determination of manner of sales, terms, prices, and the exercise of other powers granted herein, if reasonably made, are not to be questioned. No person dealing with them shall be bound to see to the application of any consideration.

4.06: EXTENSION OF OBLIGATIONS AND NEGOTIATION OF CLAIMS. To renew or extend the time of payment of any obligation, secured or unsecured, payable to or by this Trust, for as long a period or periods of time and on such terms as they shall determine; and to adjust, settle, compromise and arbitrate claims or demands in favor of or against this Trust, including claims for taxes, upon such terms as they deem advisable.

4.07: REGISTRATION OF SECURITIES. To hold any stocks, bonds, securities and/or other property in the name of a nominee, in a street name, or by other title-holding device, without indication of trust.

4.08: LOCATION OF ASSETS. To keep any property belonging to the Trust Fund at any place in the United States.

4.09: RETENTION AND REMOVAL OF PROFESSIONAL AND EMPLOYEE SERVICES. To employ attorneys, accountants, custodians, engineers, contractors, clerks, investment counsel and agents or employees (including any firm or entity in which

they may have an interest) as they shall deem advisable and to make such payments therefor as they shall deem reasonable for the implementation of the purposes of this Trust; and to lease from others, furnish, operate, and maintain office space. The Trustees shall have the absolute right to dismiss any such agent, employee or professional for any reason or for no reason.

4.10: AUTHORITY TO REPRESENT SETTLORS. To represent Settlers with regard to any matter concerning this Trust or its purpose before any Federal, State, or local agency or authority which has authority or attempts to exercise authority over the Work required by the Consent Decree or over any matter which concerns the Consent Decree or this Trust Agreement. This authority may be delegated by the Trustees to such persons as Trustees designate.

4.11: ADVISORY COMMITTEES. To establish advisory committees composed of representatives of Settlers to serve for such periods of time and for such purposes as Trustees shall determine.

4.12: INSTITUTION OF LITIGATION. To institute litigation in the name of the Trust on behalf of or in the name of all Settlers upon obtaining approval of or direction from a majority of Settlers against any parties to the litigation described in Section 1.01 which refuse to participate in the settlement provided by the Consent Decree or which agree to participate under the Consent Decree but fail to make initial payments in accord with Appendix 3 of the Consent Decree or fail to make additional payments as provided in Section IV(A)(3) of the Consent Decree and Section 2.03 of this Agreement. Settlers by agreeing to this Trust agreement assign their right to such claims to the Trustees and authorize the Trustees to file suit in the name of the Trust upon obtaining the approval of a majority of Settlers concerning the institution of litigation.

4.13: PERMITS. To apply for the issuance, assignment, or renewal of all necessary environmental permits and to comply with all obligations under such permits.

4.14: DELEGATION OF MINISTERIAL POWERS. To delegate to other persons such ministerial powers and duties as they may deem to be advisable.

4.15: POWERS OF TRUSTEES TO CONTINUE UNTIL FINAL DISTRIBUTION. To exercise any of such powers after the date on which the principal and income of the Trust Fund shall have become distributable and until such time as the entire principal of, and income from, the Trust Fund shall have been

actually distributed by the Trustees. It is intended that distribution of the Trust Fund will occur as soon as possible upon termination of the Trust.

4.16: DISCRETION IN EXERCISE OF POWERS. To do any and all other acts which they shall deem proper to effectuate the powers specifically conferred upon them by this Trust Agreement.

FIFTH: DEFINITIONS AND MISCELLANEOUS. Definitions applicable to this Agreement and miscellaneous provisions are as follows:

5.01: HEADINGS. The section headings set forth in this Agreement and the Table of Contents are inserted for convenience of reference only and shall be disregarded in the construction or interpretation of any of the provisions of this Agreement.

5.02: PARTICULAR WORDS. Any word contained in the text of this Agreement shall be read as the singular or plural and as the masculine, feminine or neuter as may be applicable or permissible in the particular context. Unless otherwise specifically stated, the word "person" shall be taken to mean and include an individual, partnership, association, company or corporation.

5.03: SEVERABILITY OF PROVISIONS. If any provision of this Agreement or its application to any person or entity or in any circumstances shall be invalid and unenforceable, the application of such provision to persons or entities and in circumstances other than those as to which it is invalid or unenforceable and the other provisions of this Agreement, shall not be affected by such invalidity or unenforceability.

5.04: NOTICES UNDER AGREEMENT. Any notice required by this Agreement to be given to the Settlers or the Trustees shall be deemed to have been properly given when mailed, postage prepaid, by registered or certified mail, to the person to be notified as set forth by the Settlor at the time of making its contributions. Any Settlor may change that address by delivering notice thereof in writing to the Trustees. Any notice required by this Agreement to be delivered to any other person or entity shall be deemed to have been properly delivered when mailed, postage prepaid, by registered or certified mail, to the person to be notified at the last known address of such person or entity, according to the records of the one giving the notice.

5.05: COUNTERPARTS OF AGREEMENT. This Agreement has been executed for the convenience of the parties hereto in counterparts, any one of which for all purposes shall be deemed to have the status of an executed original.

5.06: GOVERNING JURISDICTION. This Trust is a District of Columbia trust and all questions pertaining to its validity, construction and administration shall be determined in accordance with the laws thereof. However, the Trustees may, at any time, change the situs of this Trust to another jurisdiction; in that event, this Trust shall cease to be a Trust organized and administered under the laws of the District

of Columbia and shall thereafter be administered in accordance with the laws of the new governing jurisdiction.

5.07: MISCELLANEOUS. It is intended that the Trust be treated as a grantor trust for federal income tax purposes and that each Settlor hereof shall be treated as the owner of that portion of the Trust as their contributions to the Trust bear to all contributions to the Trust. The Trust shall operate on an accounting year which coincides with the calendar year, January 1 through December 31.

IN WITNESS WHEREOF, the undersigned, as Settlers, and the undersigned, as Trustees, have as of the day and year first above written, set their hands and seals to this Agreement, consisting of a Title Page, a Table of Contents, an Introduction, Article FIRST, Purpose, Name, and Additional Settlers, Article SECOND, Dispositive Provisions, Article THIRD, General Provisions Relating to Trustees, Article FOURTH, Trustees' Powers, Article FIFTH, Definitions and Miscellaneous Provisions, Schedule A annexed hereto, and Acknowledgments.

Attest: \_\_\_\_\_, Settlor

\_\_\_\_\_ by \_\_\_\_\_

Attest: \_\_\_\_\_, Settlor

\_\_\_\_\_ by \_\_\_\_\_

Attest: \_\_\_\_\_, Settlor

\_\_\_\_\_ by \_\_\_\_\_

Attest: \_\_\_\_\_, Settlor

\_\_\_\_\_ by \_\_\_\_\_

Attest: \_\_\_\_\_, Settlor

\_\_\_\_\_ by \_\_\_\_\_

Witness:

_____	_____ (SEAL) Trustee
_____	_____ (SEAL) Trustee
_____	_____ (SEAL) Trustee
_____	_____ (SEAL) Trustee
_____	_____ (SEAL) Trustee

CHEM-DYNE SITE TRUST FUND

SCHEDULE A

CHEM-DYNE SITE TRUST FUND

SCHEDULE A-1

<u>Settlor</u>	<u>Contribution</u>	<u>Proportionate Interest</u>
----------------	---------------------	-------------------------------

_____	\$ _____	_____
-------	----------	-------

Mailing Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Settlor

Contribution

_____	\$ _____	_____
-------	----------	-------

Mailing Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Settlor

Contribution

_____	\$ _____	_____
-------	----------	-------

Mailing Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Settlor

Contribution

_____	\$ _____	_____
-------	----------	-------

Mailing Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



Settlor

Contribution

Proportionate  
Interest

\$ \_\_\_\_\_

Mailing Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

)  
) ss.  
)

On this \_\_\_\_\_ day of \_\_\_\_\_, 1985, before me personally appeared \_\_\_\_\_ to me known, and known to me to be the individual described in and who executed the foregoing and annexed Trust as Trustee and who acknowledged the execution of the same to be his free act and deed.

\_\_\_\_\_  
Notary Public (SEAL)

My Commission expires \_\_\_\_\_

)  
) ss.  
)

On this \_\_\_\_\_ day of \_\_\_\_\_, 1985, before me personally appeared \_\_\_\_\_ to me known, and known to me to be the individual described in and who executed the foregoing and annexed Trust as Trustee and who acknowledged the execution of the same to be his free act and deed.

\_\_\_\_\_  
Notary Public (SEAL)

My Commission expires \_\_\_\_\_

)  
) ss.  
)

On this \_\_\_\_\_ day of \_\_\_\_\_, 1985, before me personally appeared \_\_\_\_\_ to me known, and known to me to be the individual described in and who executed the foregoing and annexed Trust as Trustee and who acknowledged the execution of the same to be his free act and deed.

\_\_\_\_\_  
Notary Public (SEAL)

My Commission expires \_\_\_\_\_

)  
) ss.  
)

On this \_\_\_\_\_ day of \_\_\_\_\_, 1985, before me personally appeared \_\_\_\_\_ to me known, and known to me to be the individual described in and who executed the foregoing and annexed Trust as Trustee and who acknowledged the execution of the same to be his free act and deed.

\_\_\_\_\_  
Notary Public (SEAL)

My Commission expires \_\_\_\_\_

)  
) ss.  
)

On this                      day of  
1985, before me personally appeared \_\_\_\_\_ to me known,  
and known to me to be the individual described in and who  
executed the foregoing and annexed Trust as Trustee and who  
acknowledged the execution of the same to be his free act and  
deed.

\_\_\_\_\_  
Notary Public (SEAL)

My Commission expires \_\_\_\_\_

)  
) ss.  
)

I, \_\_\_\_\_, a Notary Public  
in and for the foresaid jurisdiction, do hereby certify that  
\_\_\_\_\_, who is personally known to me to be the  
person who executed the foregoing and annexed Trust, person-  
ally appeared before me in the aforesaid jurisdiction, and as  
\_\_\_\_\_, of \_\_\_\_\_, and  
by virtue of the power and authority in him vested, acknowl-  
edged the same to be the act and deed of  
and he executed the same as such.

Given under my hand and seal this \_\_\_\_\_ day of  
, 1985.

\_\_\_\_\_  
Notary Public (SEAL)

My Commission expires \_\_\_\_\_

)  
) ss.  
)

I, \_\_\_\_\_, a Notary Public  
in and for the foresaid jurisdiction, do hereby certify that  
\_\_\_\_\_, who is personally known to me to be the  
person who executed the foregoing and annexed Trust, person-  
ally appeared before me in the aforesaid jurisdiction, and as  
\_\_\_\_\_, of \_\_\_\_\_, and  
by virtue of the power and authority in him vested, acknowl-  
edged the same to be the act and deed of  
and he executed the same as such.

Given under my hand and seal this \_\_\_\_\_ day of  
, 1985.

\_\_\_\_\_  
Notary Public (SEAL)

My Commission expires \_\_\_\_\_

)  
) ss.  
)

I, \_\_\_\_\_, a Notary Public  
in and for the foresaid jurisdiction, do hereby certify that  
\_\_\_\_\_, who is personally known to me to be the  
person who executed the foregoing and annexed Trust, person-  
ally appeared before me in the aforesaid jurisdiction, and as  
\_\_\_\_\_, of \_\_\_\_\_, and  
by virtue of the power and authority in him vested, acknowl-  
edged the same to be the act and deed of  
and he executed the same as such.

Given under my hand and seal this \_\_\_\_\_ day of  
, 1985.

\_\_\_\_\_  
Notary Public (SEAL)

My Commission expires \_\_\_\_\_

)  
) ss.  
)

I, \_\_\_\_\_, a Notary Public  
in and for the foresaid jurisdiction, do hereby certify that  
\_\_\_\_\_, who is personally known to me to be the  
person who executed the foregoing and annexed Trust, person-  
ally appeared before me in the aforesaid jurisdiction, and as  
\_\_\_\_\_, of \_\_\_\_\_, and  
by virtue of the power and authority in him vested, acknowl-  
edged the same to be the act and deed of  
and he executed the same as such.

Given under my hand and seal this \_\_\_\_\_ day of  
, 1985.

\_\_\_\_\_  
Notary Public (SEAL)

My Commission expires \_\_\_\_\_

)  
) ss.  
)

I, , a Notary Public  
in and for the foresaid jurisdiction, do hereby certify that  
, who is personally known to me to be the  
person who executed the foregoing and annexed Trust, person-  
ally appeared before me in the aforesaid jurisdiction, and as  
, of , and  
by virtue of the power and authority in him vested, acknowl-  
edged the same to be the act and deed of  
and he executed the same as such.

Given under my hand and seal this day of  
, 1985.

CHEN DYNE ALLOCATION

RANK	TIER	GENERATOR	1 --- NUMBER OF DRUMS	2 --- PERCENT OF \$15 MILLION ASSESSMENT	3 --- ACTUAL SHARE OF \$15 MILLION	4 --- AMOUNT PAID BY SETTLORS	5 --- SETTLORS' SHARES OF \$1,062,000 ADMINIS. COSTS	6 --- NON-SETTLORS' SHARES OF \$2,938,000 ADMIN. COSTS	7 --- TOTAL COST TO SETTLE	8 --- NET AMOUNT DUE	9 --- PREMIUM SETTLEMENT AMOUNT
1	1	VELSICOL CHEMICAL	20,673	10.8689%	1,630,331.78	250,000	468,490.94		2,348,822.72	2,098,822.72	
2	2	ROHM & HAAS	7,432	3.7362%	560,426.55			288,581.75	849,008.30	849,008.30	
3	2	CIBA-GEIGY CORP.	6,047	3.7362%	560,426.55			288,581.75	849,008.30	849,008.30	
4	2	FMC CORP.	5,702	3.7362%	560,426.55	100,000	95,134.04		755,560.59	655,560.59	
5	2	KOPPERS CO.	4,999	3.7362%	560,426.55	65,000	100,584.43		726,010.98	661,010.98	
6	3	ALLIED CORP.	3,382	2.3776%	356,635.08			203,370.21	560,005.28	560,005.28	
7	3	E.I. DUPONT DE NEMOURS	3,191	2.3776%	356,635.08	100,000	43,103.73		499,738.81	399,738.81	
8	3	SEARLE MEDICAL PRODUCTS	2,960	2.3776%	356,635.08			203,370.21	560,005.28	560,005.28	
9	3	UNION CARBIDE	2,868	2.3776%	356,635.08	75,000	45,077.15		476,712.23	401,712.23	
10	3	S.W.S./STAUFFER/CALHID	2,826	2.3776%	356,635.08	100,000	43,103.73		499,738.81	399,738.81	
11	3	ANDERSON DEVELOPMENT	2,801	2.3776%	356,635.08	50,000	45,077.15		451,712.23	401,712.23	
12	4	MONSANTO CO.	2,097	1.6983%	254,739.34			145,264.43	400,003.77	400,003.77	
13	4	SHELL OIL CO.	2,088	1.6983%	254,739.34			145,264.43	400,003.77	400,003.77	
14	4	M&T CHEMICAL	1,926	1.6983%	254,739.34	100,000	5,264.05		360,003.39	260,003.39	
15	4	OLIN CORP.	1,704	1.6983%	254,739.34	50,000	33,674.67		338,414.01	288,414.01	
16	5	AMERICAN CYANAMID	1,441	1.3586%	203,791.47	90,000	(5,788.76)		288,002.71	198,002.71	
17	5	ASTRO CONTAINERS, INC.	1,428	1.3586%	203,791.47			116,211.55	320,003.02	320,003.02	
18	5	GOODYEAR TIRE & RUBBER	1,350	1.3586%	203,791.47	65,000	19,211.24		288,002.71	223,002.71	
19	5	LUDLOW CORP.	1,297	1.3586%	203,791.47			116,211.55	320,003.02	320,003.02	
20	5	U.S. STEEL/SWEDCAST	1,279	1.3586%	203,791.47	50,000	20,925.52		274,716.99	224,716.99	
21	5	DART INDUSTRIES	1,266	1.3586%	203,791.47	75,000	9,211.24		288,002.71	213,002.71	
22	5	DIAMOND INTERNATIONAL	1,244	1.3586%	203,791.47	50,000	20,925.52		274,716.99	224,716.99	
23	5	ETHYL CORP.	1,236	1.3586%	203,791.47	50,000	20,925.52		274,716.99	224,716.99	
24	5	AMF, INC.	1,201	1.3586%	203,791.47			116,211.55	320,003.02	320,003.02	
25	6	GEORGIA-PACIFIC CORP.	1,179	1.1888%	178,317.54			101,685.10	280,002.64	280,002.64	
26	6	OWENS CORNING FIBERGLAS	1,134	1.1888%	178,317.54	75,000	(1,315.17)		252,002.37	177,002.37	
27	6	PPG INDUSTRIES, INC.	1,107	1.1888%	178,317.54	95,000	(21,315.17)		252,002.37	157,002.37	
28	6	MERRELL DOW	1,095	1.1888%	178,317.54	50,000	13,309.82		241,627.36	191,627.36	
29	6	MOBAY CHEMICAL	1,022	1.1888%	178,317.54	50,000	18,309.82		246,627.36	196,627.36	
30	6	WORLD PIPE SERVICE	1,010	1.1888%	178,317.54			101,685.10	280,002.64	280,002.64	
31	6	APPLIED TECHNOLOGY	989	1.1888%	178,317.54			101,685.10	280,002.64	280,002.64	
32	6	ALBANY INT'L/CHEMSAMPCO	979	1.1888%	178,317.54	10,000	18,309.82		206,627.36	196,627.36	
33	6	B.F. GOODRICH	912	1.1888%	178,317.54			101,685.10	280,002.64	280,002.64	
34	7	AIR PRODUCTS, INC.	875	0.9510%	142,654.03	10,000	14,647.86		167,301.89	157,301.89	
35	7	PROCTER & GAMBLE	871	0.9510%	142,654.03	10,000	14,647.86		167,301.89	157,301.89	
36	7	OCCIDENTAL CHEMICAL	829	0.9510%	142,654.03	90,000	(31,052.14)		201,601.89	111,601.89	



37	7	CROWN ZELLERBACH	783	0.9510%	142,654.03	10,000	14,647.86		167,301.89	157,301.89
38	7	C.W. ZUMBIEL CO.	721	0.9510%	142,654.03			81,348.08	224,002.11	224,002.11
39	7	VOLKSWAGEN OF AMERICA	695	0.9510%	142,654.03	10,000	14,647.86		167,301.89	157,301.89
40	7	MORTON THIOKOL	563	0.9510%	142,654.03	10,000	14,647.86		167,301.89	157,301.89
41	8	ARGUS CHEMICAL	486	0.5095%	76,421.80	5,000	7,847.07		89,268.87	84,268.87
42	8	CHEMINEER, INC.	465	0.5095%	76,421.80	5,000	7,847.07		89,268.87	84,268.87
43	8	NORTHERN ENGRAVING	455	0.5095%	76,421.80	5,000	7,847.07		89,268.87	84,268.87
44	8	FRIES/MALLINCKRODT	422	0.5095%	76,421.80	5,000	7,847.07		89,268.87	84,268.87
45	8	BORDEN INC.	363	0.5095%	76,421.80	50,000	(18,420.79)		108,001.01	58,001.01
47	8	BROUSSARD CHEMICAL	353	0.5095%	76,421.80			43,579.33	120,001.13	120,001.13
48	8	NEUTRON PRODUCTS	348	0.5095%	76,421.80			43,579.33	120,001.13	120,001.13
49	8	HAMMERMILL PAPER	345	0.5095%	76,421.80	10,000	7,847.07		94,268.87	84,268.87
50	8	UNIVERSAL MANUFACTURING	336	0.5095%	76,421.80	50,000	(18,420.79)		108,001.01	58,001.01
51	8	ESSEX GROUP	319	0.5095%	76,421.80	10,000	7,847.07		94,268.87	84,268.87
52	8	PHILLIPS PETROLEUM	313	0.5095%	76,421.80			43,579.33	120,001.13	120,001.13
53	9	SCHOLLE CORP.	294	0.3397%	50,947.87	5,000	5,231.38		61,179.25	56,179.25
54	9	CUMMINS ENGINE CO.	278	0.3397%	50,947.87	5,000	5,231.38		61,179.25	56,179.25
55	9	GENERAL ELECTRIC	269	0.3397%	50,947.87	50,000	(28,947.19)		72,000.68	22,000.68
56	9	BOFORS NOBEL, INC.	264	0.3397%	50,947.87			29,052.89	80,000.75	80,000.75
57	9	AMERICAN CAN CO.	240	0.3397%	50,947.87	5,000	5,231.38		61,179.25	56,179.25
58	9	SANGAMO WESTON	231	0.3397%	50,947.87	50,000	(28,947.19)		72,000.68	22,000.68
59	9	HOLLISTON MILLS	219	0.3397%	50,947.87	10,000	5,231.38		66,179.25	56,179.25
60	9	LIQUID PROCESSORS	218	0.3397%	50,947.87			29,052.89	80,000.75	80,000.75
61	9	SPRINGFIELD GRAVURE	216	0.3397%	50,947.87			29,052.89	80,000.75	80,000.75
62	9	SUN CHEMICAL CORP.	216	0.3397%	50,947.87			29,052.89	80,000.75	80,000.75
63	9	RICHARDSON CO.	210	0.3397%	50,947.87	5,000	5,231.38		61,179.25	56,179.25
64	9	ALUMINUM CO. OF AMERICA	203	0.3397%	50,947.87			29,052.89	80,000.75	80,000.75
65	9	SALSBURY LABS	201	0.3397%	50,947.87	5,000	5,231.38		61,179.25	56,179.25
66	10	MEARL CORP.	183	0.2378%	35,663.51	10,000	3,661.96		49,325.47	39,325.47
67	10	ROTON CORP.	171	0.2378%	35,663.51	5,000	3,661.96		44,325.47	39,325.47
68	10	COMPO INDUSTRIES	167	0.2378%	35,663.51	5,000	3,661.96		44,325.47	39,325.47
69	10	AMERICAN ROLLER CO.	166	0.2378%	35,663.51	5,000	3,661.96		44,325.47	39,325.47
70	10	FORD MOTOR CO.	160	0.2378%	35,663.51			20,337.02	56,000.53	56,000.53
71	10	APPLETON PAPERS	159	0.2378%	35,663.51	10,000	3,661.96		49,325.47	39,325.47
72	10	EGYPTIAN LACQUER MFG.	158	0.2378%	35,663.51	10,000	3,661.96		49,325.47	39,325.47
73	10	AMERICAN GREETINGS	157	0.2378%	35,663.51	10,000	3,661.96		49,325.47	39,325.47
74	10	WHIRLPOOL CORP.	156	0.2378%	35,663.51			20,337.02	56,000.53	56,000.53
75	10	TRAVENOL LABS	154	0.2378%	35,663.51	5,000	3,661.96		44,325.47	39,325.47
76	10	STRUCTURLITE PLASTICS	153	0.2378%	35,663.51			20,337.02	56,000.53	56,000.53
77	10	FORT WAYNE POOLS	150	0.2378%	35,663.51	5,000	3,661.96		44,325.47	39,325.47
78	10	LORD CORP.	149	0.2378%	35,663.51	5,000	3,661.96		44,325.47	39,325.47
79	10	FRANK ENTERPRISES	148	0.2378%	35,663.51	5,000	3,661.96		44,325.47	39,325.47
80	10	KLOR-KLEEN, INC.	145	0.2378%	35,663.51			20,337.02	56,000.53	56,000.53
81	10	MERCULES, INC.	143	0.2378%	35,663.51	5,000	3,661.96		44,325.47	39,325.47
82	10	CARTER PAINT CO.	139	0.2378%	35,663.51			20,337.02	56,000.53	56,000.53
83	10	ANVIL PRODUCTS, INC.	135	0.2378%	35,663.51			20,337.02	56,000.53	56,000.53
84	10	LIBERTY SOLVENTS & CHEM	133	0.2378%	35,663.51			20,337.02	56,000.53	56,000.53
85	10	CHAMPION INTERNATIONAL	131	0.2378%	35,663.51	10,000	3,661.96		49,325.47	39,325.47
86	10	SPRAGUE ELECTRIC CO.	123	0.2378%	35,663.51			20,337.02	56,000.53	56,000.53
87	10	GULF OIL PRODS CO.	111	0.2378%	35,663.51	5,000	3,661.96		44,325.47	39,325.47

88	10	NATL DIST & CHEM CORP/EMERY IND	109	0.2378Z	35,663.51	10,000	3,661.96		49,325.47	39,325.47	113,313.68
89	10	FACET ENTERPRISES	105	0.2378Z	35,663.51			20,337.02	56,000.53	56,000.53	140,001.32
91	10	DIAMOND SHAMROCK	101	0.2378Z	35,663.51	10,000	3,661.96		49,325.47	39,325.47	113,313.68
92	10	WITCO	100	0.2378Z	35,663.51	5,000	3,661.96		44,325.47	39,325.47	105,813.68
93	11	CHEMICAL SOLVENTS, INC.	96	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
94	11	CALGON CORP.	91	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
95	11	GEN'L MOTORS CORP. (DELCO ELEC.)	91	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
96	11	GENERAL TIRE & RUBBER	91	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
97	11	NCR CORP.	90	0.1359Z	20,379.15	5,000	2,092.55		27,471.70	22,471.70	63,679.25
98	11	ESSEF/STRUCTURAL FIBRES	89	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
99	11	AURORA CASKET CO., INC.	88	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
100	11	R.R. DONNELLEY & SONS	87	0.1359Z	20,379.15	5,000	2,092.55		27,471.70	22,471.70	63,679.25
101	11	U.S. EPA	84	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
103	11	ABBOTT LABORATORIES	80	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
104	11	AMERICAN RECOVERY CO.	80	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
105	11	AM. STD./MOZZILLER SAFE	80	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
106	11	H.S. CROCKER CO., INC.	80	0.1359Z	20,379.15	5,000	2,092.55		27,471.70	22,471.70	63,679.25
107	11	MCDONNELL DOUGLAS CORP.	80	0.1359Z	20,379.15	10,000	(1,578.88)		28,800.27	18,800.27	62,000.68
108	11	ROGERS CORP.	80	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
109	11	SEAMAN CORP.	80	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
110	11	TAPPAN CO.	80	0.1359Z	20,379.15	5,000	2,092.55		27,471.70	22,471.70	63,679.25
111	11	R.T. VANDERBILT	80	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
112	11	ATLANTIC RICHFIELD/AMACONDA	76	0.1359Z	20,379.15	5,000	2,092.55		27,471.70	22,471.70	63,679.25
113	11	AYDIN CORP.	75	0.1359Z	20,379.15	5,000	2,092.55		27,471.70	22,471.70	63,679.25
114	11	TENNECO RESINS	72	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
115	11	CLARK OIL CO.	71	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
116	11	ITT TELECOM	71	0.1359Z	20,379.15	5,000	2,092.55		27,471.70	22,471.70	63,679.25
117	11	HALOCARBON PRODUCTS	70	0.1359Z	20,379.15			11,621.15	32,000.30	32,000.30	80,000.75
118	12	NIOSH	67	0.1295Z	19,431.52			11,980.77	30,512.29	30,512.29	76,280.72
119	12	VULCAN MATERIALS	67	0.1295Z	19,431.52	5,000	1,995.24		26,426.76	21,426.76	61,066.90
120	12	RHONE-POULENC	64	0.1253Z	18,789.57			10,714.70	29,504.28	29,504.28	73,760.70
121	12	DOVER CHEMICAL	60	0.1196Z	17,933.65			10,226.62	28,160.26	28,160.26	70,400.66
122	12	SIEMENS-ALLIS	60	0.1196Z	17,933.65	5,000	1,841.44		24,775.09	19,775.09	56,937.73
123	12	SYNTEX CHEMICALS	56	0.1139Z	17,077.73	5,000	1,753.55		23,831.28	18,831.28	54,578.20
124	12	WHITE PIGEON PAPER CO.	55	0.1124Z	16,863.74			9,616.51	26,480.25	26,480.25	66,200.62
125	12	WHITE CONSOLIDATED/ATHENS	52	0.1081Z	16,221.80			9,250.44	25,472.24	25,472.24	63,680.60
126	12	CYCLOPS CORP.	52	0.1081Z	16,221.80	10,000	(3,296.78)		22,925.02	12,925.02	47,312.55
127	12	LOCTITE CORP.	50	0.1053Z	15,793.84			9,006.39	24,800.23	24,800.23	62,000.58
128	12	XOMX CORP.	48	0.1024Z	15,365.88	5,000	1,339.44		21,705.32	16,705.32	49,263.30
129	12	STANDARD OIL CO. OF OHIO	47	0.1010Z	15,151.90	5,000	1,253.16		21,405.06	16,405.06	48,512.65
130	12	BDC CROUP/ATRCO	44	0.0967Z	14,509.95	5,000	986.62		20,496.57	15,496.57	46,241.43
131	12	MICRO-DEVICES	44	0.0967Z	14,509.95	5,000	986.62		20,496.57	15,496.57	46,241.43
132	12	DAVE NEIL ASSOCIATES	41	0.0925Z	13,868.01			7,908.20	21,776.21	21,776.21	54,440.51
133	12	INTERNATIONAL PAPER	40	0.0910Z	13,654.03	5,000	633.80		19,287.83	14,287.83	43,219.58
134	12	DOW CHEMICAL	36	0.0853Z	12,798.11				18,079.08	18,079.08	45,197.70
135	12	CLOPAY CORP.	34	0.0825Z	12,370.14	7,500	(2,391.58)		17,478.56	9,978.56	36,196.40
136	12	COLT INDUSTRIES	33	0.0810Z	12,156.16			6,932.02	19,088.18	19,088.18	47,720.45
137	12	BROWNING FERRIS INDUSTRIES	32	0.0796Z	11,942.18			6,810.00	18,752.18	18,752.18	46,880.45
138	12	YORK CAPACITOR	32	0.0796Z	11,942.18			6,810.00	18,752.18	18,752.18	46,880.45
139	12	BISHOPRIC, INC.	30	0.0768Z	11,514.22	5,000	(244.40)		16,269.82	11,269.82	35,674.55
140	12	EXXON RESEARCH & ENG	27	0.0725Z	10,872.27	10,000	(5,510.93)		15,361.34	5,361.34	28,403.35

141	12	SCM CORP.	24	0.0682%	10,230.33	5,000	(777.47)	14,452.86	9,452.86	31,132.15
142	12	DIEMAKERS, INC.	23	0.0668%	10,016.35	10,000	(5,863.76)	14,152.59	4,152.59	25,381.48
143	12	DIEBOLD, INC.	22	0.0653%	9,802.37	5,000	(957.73)	13,844.64	8,844.64	29,611.60
144	12	THE KROGER COMPANY	20	0.0625%	9,374.41			5,345.73	14,720.14	36,800.35
145	12	MK LABORATORIES	19	0.0611%	9,160.43			5,223.71	14,384.14	35,960.34
146	12	REPUBLIC CORP	18	0.0596%	8,946.45	10,000	(6,310.55)	12,635.90	2,635.90	21,589.75
147	12	GLYCO INC.	17	0.0582%	8,732.46	5,000	(1,396.83)	12,335.63	7,335.63	25,839.08
148	12	NATL SERVICE IND., INC.	15	0.0554%	8,304.50	5,000	(1,569.39)	11,735.11	6,735.11	24,337.78
149	12	RALSTON PURINA	15	0.0554%	8,304.50	5,000	(1,569.39)	11,735.11	6,735.11	24,337.78
150	12	NEWARK AIR FORCE BASE	14	0.0539%	8,090.52			4,613.60	12,704.12	31,760.30
151	12	HAMILTON TOOL	13	0.0525%	7,876.54			4,491.58	12,368.12	30,920.29
152	12	OWENS-ILLINOIS, INC.	13	0.0525%	7,876.54			4,491.58	12,368.12	30,920.29
153	12	AMERICAN SIGN CO.	12	0.0511%	7,662.56			4,369.55	12,032.11	30,080.28
154	12	A.E. STALEY	12	0.0511%	7,662.56	5,000	(1,833.66)	10,828.90	5,828.90	22,072.25
155	12	NAT'L STARCH & CHEMICAL CORP	10	0.0482%	7,234.60			4,125.51	11,360.11	28,400.27
156	12	BETHEL-TATE BOARD OF ED	10	0.0482%	7,234.60			4,125.51	11,360.11	28,400.27
158	12	ENERGY CONVERSION DEVICES	10	0.0482%	7,234.60	5,000	(2,010.50)	10,224.10	5,224.10	20,560.25
159	12	ALEX PAT'N ASSOC. INC (R&G SERV)	10	0.0482%	7,234.60			4,125.51	11,360.11	28,400.27
160	12	UNITED PARCEL SERVICE, INC.	10	0.0482%	7,234.60			4,125.51	11,360.11	28,400.27
161	12	DUKE UNIVERSITY	8	0.0454%	6,806.64			3,881.47	10,688.10	26,720.25
162	12	CURTIN MATHESON SCIEN., INC.	7	0.0440%	6,592.65			3,759.44	10,352.10	25,880.25
163	12	NAPP SYSTEMS (USA) INC.	7	0.0440%	6,592.65			3,759.44	10,352.10	25,880.25
164	12	CBS, INC.	6	0.0425%	6,378.67			3,637.42	10,016.10	25,040.24
165	12	KEENE CORPORATION	6	0.0425%	6,378.67			3,637.42	10,016.10	25,040.24
166	12	OHIO EPA	6	0.0425%	6,378.67			3,637.42	10,016.10	25,040.24
167	12	OCME UNITED CORPORATION	5	0.0411%	6,164.69			3,515.40	9,680.09	24,200.23
168	12	HUKILL CHEMICAL	5	0.0411%	6,164.69			3,515.40	9,680.09	24,200.23
169	12	INDUSTRIAL ELECTRONIC RUBBER CO.	4	0.0397%	5,950.71			3,393.38	9,344.09	23,360.22
170	12	ASHLAND CO.	3	0.0382%	5,736.73	10,000	(5,736.73)	10,000.00	0.00	15,000.00
171	12	REXARC	3	0.0382%	5,736.73			3,271.36	9,008.09	22,520.21
172	12	THE CHRIST HOSPITAL	3	0.0382%	5,736.73			3,271.36	9,008.09	22,520.21
173	12	CHARLES F. KETTERING	3	0.0382%	5,736.73	5,000	(2,629.46)	8,107.27	3,107.27	15,268.18
174	12	CUSTOM COATED (DAYCO)	2	0.0368%	5,522.75			3,149.33	8,672.08	21,680.21
175	12	INMONT	2	0.0368%	5,522.75	5,000	(2,717.88)	7,804.87	2,804.87	14,512.18
176	12	S.W. PORTLAND	2	0.0368%	5,522.75	5,000	(2,717.88)	7,804.87	2,804.87	14,512.18
177	12	VWR SCIENTIFIC	2	0.0368%	5,522.75			3,149.33	8,672.08	21,680.21
178	12	ARMCO INC.	1	0.0354%	5,308.77			3,027.31	8,336.06	20,840.20
			111,567	100.0000%	15,000,000.01	2,282,500	1,061,999.47	2,938,128.90	21,282,628.38	19,000,128.38
		NON-PARTY SETTLING COMPANIES				171,000			171,000.00	
						2,453,500	TOTAL		21,453,628.38	

## APPENDIX 4

### Premium Settling Defendants

Ford Motor Company  
Structurlite Plastics Corp.  
Diamond Shamrock Chemicals Co.  
Delco Electronics (General Motors Corp.)  
NCR Corp.  
Atlantic Richfield Co. (Anaconda)  
ITT Telecom Products Corp.  
White Pigeon Paper Co.  
Anaquest Div'n of BOC Inc. (formerly Airco, Inc.)  
Browning Ferris Industries  
Exxon Research & Eng. Co.  
Diebold, Inc.  
The Kroger Company  
Glyco Inc.  
Owens-Illinois, Inc.  
American Sign Co.  
National Starch & Chemical Corp.  
Energy Conversion Services  
R&G Services (Alexander-Patterson Asso., Inc.)  
United Parcel Service, Inc.  
Duke University  
Curtin Matheson Scientific, Inc.  
NAPP Systems (U.S.A.), Inc.  
CBS Inc.  
Keene Corp.  
Acme United Corporation  
Industrial Electronic Rubber Company  
Inmont Corp.  
Southwestern Portland Cement Co.  
Armco Inc.

APPENDIX 5

Property Owners

American Society for Environmental Education, Inc.  
The Baltimore & Ohio Railroad  
Cindoco Products, a partnership  
Hamilton Light & Power Co. (City of Hamilton)  
Miami Conservancy District  
Herbert A. Middendorff  
Robert G. Robson  
Richard T. Wurzelbacher, a partner of Cindoco Products  
Robert M. Wurzelbacher, a partner of Cindoco Products

APPENDIX 6

CHEM-DYNE SITE ESCROW ACCOUNT

Dated:

\_\_\_\_\_, 1985

### ESCROW AGREEMENT

This Agreement is made between those companies listed on Schedule A appended hereto (hereinafter "Payors") and \_\_\_\_\_ (hereinafter "Escrow Agent").

Payors are Premium Settling Defendants under Paragraph XIV of the Consent Decree entered in United States of America v. Chem-Dyne Corporation, et al., Civil Action No. C-1-82-840 S.D. Ohio, Western Div.) and State of Ohio v. Rohm and Haas Company, et al., Civil Action No. C-1-82-962 (S.D. Ohio, Western Div.). Pursuant to Paragraph XIV(E) of the Consent Decree, Payors have agreed, in exchange for a release from liability, to pay those amounts listed in column 9 of Appendix 3 to the Consent Decree.

Payors hereby agree to make their required payments within thirty (30) days of entry of the Consent Decree to Escrow Agent, which shall select a bank in which to deposit the funds. Escrow Agent is not obligated to invest the funds in an interest-bearing account, and no interest shall be added to the funds contributed by Payors.

All funds contributed by Payors shall be used to make the payment to the United States Environmental Protection Agency required under Paragraph XI of the Consent Decree. Escrow Agent shall remit such payment within forty-five (45) days of the entry of the Consent Decree, and shall inform

the Chem-Dyne Site Trust Fund Trustees of the timing and amount of such payment.

This Agreement shall be governed by the law of the District of Columbia, and all questions pertaining to its validity, construction and administration shall be determined in accordance with the laws thereof.

IN WITNESS WHEREOF, the undersigned, as Payors, and the undersigned, as Escrow Agent, have set their hands and seals to this Agreement.

FOR ESCROW AGENT:

\_\_\_\_\_

FOR PAYORS:

As per attached consent forms.

By: \_\_\_\_\_